UNIVERSITY OF PENNSYLVANIA

TESTS OF FUNCTIONAL LATIN FOR SECONDARY SCHOOL USE BASED UPON THE RECOMMENDATIONS OF THE CLASSICAL INVESTIGATION

CATHERINE M. HAAGE

A THESIS

IN EDUCATION

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

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I

Introduction

The Classical Investigation, conducted by the American Classical League in 1921–1923, has played a major part in the reorganization movement in secondary education which has been gathering momentum for more than a generation. The principal causes attributed to the undertaking of such a comprehensive investigation were the spread of scientific inquiry to education, discontent with the results of traditional methods of teaching, and the demands made upon schools by rapidly increasing attendance.

When it was revealed in the course of the survey by a committee of the Classical Investigation that 940,000[1] students were enrolled in various Latin courses—an enrollment of 14,000 more than in all other foreign languages combined—nationwide attention was directed toward the teaching of a subject which, according to modern educational theory, was considered "dead" by many educators. As a result the interest of teachers of Latin was aroused.

Many new and revised texts, chiefly in the field of elementary Latin have been published since 1924. They tend to be richer and more varied in content than the texts previously published and follow the recommendations of the Classical Investigation at least in some detail in regard to "functional method."

Various exercises of the Latin classroom began to be considered more critically in terms of their function in relation to accepted objectives, from which the term "functional method" may fairly be applied to the procedure recommended by the Classical Investigation. By "functional method" is meant the comprehension of the thought of a Latin sentence or paragraph (not translation), and the ability to recognize and understand Latin words, forms, and syntactical principles in context. This method does not involve the literal translation of a Latin sen-

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[1] *Classical Investigation*, Part I. Princeton University Press, 1924, Table I, p. 269.

tence or the specific recall of the English equivalents of all words concerned as a means of comprehension; nor does it demand the memorization of forms and rules of syntax in advance of actual experience of them in reading. "Functional method" centers on comprehension, to which vocabulary, syntax and inflectional forms are auxiliary.

It was in the transition period, while the Classical Investigation was being carried on, that it was found necessary to measure the results of the teaching of Latin in accordance with modern educational practice. Valuable contributions to the field of measurements were soon made in the form of tests to measure comprehension, vocabulary, forms and syntax in an objective way. This movement marked the use of the first standardized Latin tests, with the exception of the Henmon Vocabulary and Sentence Test, first published in 1917.

Most of the tests, as it will be explained later in this chapter, were devised to determine the nationwide conditions of Latin classes and to ascertain the relative weaknesses of the Latin curriculum as they existed in 1921–1923. Since that time few Latin tests have been constructed. The tests used in connection with the Classical Investigation were objective in character and served the purpose for which they were constructed, namely, the testing of Latin taught by the traditional method then prevailing. Largely from the results of these newly devised tests, the Committee of the Classical Investigation recommended that Latin be taught in a "functional" way, that the "ability to read and understand Latin" should serve as the immediate objective, and that the elements of the language be taught in context.

That these recommendations have been at least nominally adopted will be shown in various parts of this study. Latin tests, however, remained almost unchanged. Language elements could be tested objectively indeed, but not functionally; in isolation but not in context; by the recognition of English equivalents but not by the "reading of Latin as Latin."

It was because of this existing condition that the present investigator was forced to abandon her original problem, which involved a detailed comparison of the results of the use of Latin

textbooks following the recommendations of the Classical Investigation and those published before 1924. It would have been necessary that pupils using various types of Latin books be measured by a test, valid for the testing of Latin taught in the formal way, and one, valid for the testing of those pupils taught by the functional method. A number of objective tests existed which might have been used successfully to test pupils taught by the traditional method and although a functional comprehension test (Ullman-Kirby) was available, there was no way of testing language elements taught in a functional way. Consequently the construction of Latin tests to measure Latin taught by the functional method was imperative.

Purpose of the Study

The purpose of this study, therefore, is to construct standardized achievement tests in functional secondary school Latin that will be valid for testing the attainment of the immediate objectives set up by the Classical Investigation[2], namely, the progressive development of the ability to read and understand Latin, through an increasing mastery of the elements of language: vocabulary, forms and speech feeling (syntax).

Definition of Terms

It is necessary at this point to emphasize the difference between ultimate and immediate objectives.

"By *ultimate* objectives are meant those which involve educational values upon which the justification of Latin as an instrument in secondary education must depend, namely, those abilities, knowledges, attitudes and habits which continue to function after the school study of Latin has ceased, for example, the ability to determine the meaning of an unfamiliar English word derived from Latin, the habit of sustained attention, or an appreciation of the influence of Roman civilization on the course of western civilization. By *immediate* objectives are meant those indispensable aims in which progressive achievement is necessary to ensure the attainment of the ultimate objectives, but which may cease to function after the school study of Latin has ceased; for example, the ability to conjugate a Latin verb or to translate a passage from Caesar."[3]

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[2] *The Classical Investigation*, Part I. Princeton University Press, 1924, p. 79.
[3] *The Classical Investigation*, Part I, Princeton University Press, 1924, p. 32.

In the attainment of this primary immediate objective several secondary objectives are involved, such as a sufficient knowledge of Latin vocabulary, syntax, and forms, which will be discussed later in this chapter. It should be understood that by the reading of Latin is meant the comprehension of the thought of Latin, whether or not this is accompanied or followed by translation into English.[4] While translation into adequate English of the thought comprehended has a special function in the development of ability to speak and write correct and effective English as an ultimate objective, it is the opinion of the committee that translation makes little contribution to the comprehension of Latin as Latin.

This approach to the attainment of the reading objective is an old theory. In the Report of the Committee of Twelve in 1899, this statement is found: "The student should be carefully trained to take in the meaning of the sentence in the order in which it stands, and before translating."[5] The Committee of Ten of the N. E. A. reported in 1894:

> "The student should be taught to regard translation not as a means of finding out what his author has said, but as, on the one hand, a way of making it clear to his instructor that he has understood, and, on the other, an exercise in expression,—a literary exercise,—in his own tongue. And finally it should be shown to him that, even on the most practical grounds, to attempt to find out the meaning of a Latin sentence through translating it is an operation almost sure to miscarry.[6]

The following statement appears in the regular announcements of the College Entrance Examination Board:

> "From the outset particular attention should be given to developing the ability to take in the meaning of each word,—and so, gradually, of the whole sentence,—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and the position of the word itself."[7]

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[4] *Op. cit.*, p. 83.
[5] Proceedings of the American Philological Association, XXX, 1899.
[6] *Report of Committee of Ten of the N. E. A.*, 1894, pp. 70–71.
[7] *College Entrance Examination Board, Document 101*, August 1, 1921, p. 27.

The ability to read Latin may be attained by three methods of procedure recommended by the Classical Investigation:

"Training pupils to take in the thought of each word-group as it appears, and then translate it.

"Training pupils to grasp the meaning of the entire sentence in the Latin order, and then translate it.

"Training pupils to read a Latin sentence and to answer questions upon it without translating it."[8]

The use of carefully prepared questions on the thought of the passage is recommended. These questions should be so constructed as to require for a correct answer the understanding of a whole sentence or sentences, and not such as can be answered from a knowledge of only one or two words or phrases. This method of testing comprehension has two advantages over exclusive dependence upon translation:

1. Emphasis is placed upon a perception of thought rather than on the superficial use of words:
2. A class may do the reading assignment more rapidly, thus providing more class time for a careful criticism of translations to be made in the class.

Reading, as defined by the Classical Investigation, also involves a "functional" knowledge of *vocabulary*. By "functional" is meant that "new words should first be met in an enlightening context, oral, written, or printed, and that pupils through daily classroom practice in comprehension at sight should be trained to get at the meaning of most new words through intelligent use of the context with the assistance of such light as is often thrown upon the meaning by related Latin words and by English derivatives."[9] The traditional method involves the necessity of the memorization of "meanings" of Latin words before the translation of a sentence or passage is attempted.

The learning of inflectional *forms* should be closely associated with practice in the use of those forms, according to the report of

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[8] *The Classical Investigation*, Part I, Princeton University Press, 1924, p. 194.
[9] *The Classical Investigation*, Part I, Princeton University Press, 1924, p. 207.

the Classical Investigation. Paradigms should be memorized only as soon as the most important functions of the case forms have been recognized in context a sufficient number of times to assure confidence that grammatical ideas rather than formal English equivalents have been associated with the endings.

"From the outset an accurate knowledge of the inflectional forms used should be insisted upon. But these forms should not be learned in parrot fashion quite apart from their uses. The formal paradigms should follow, not precede, the actual use of the forms in translation. A large number of easy oral, and later, written exercises bearing upon and illuminating the story or fable which is read should fix these forms and the necessary syntax firmly in mind. Words, forms, and principles of syntax should be learned because needed and when needed in the reading of the text."[10]

Again the same thought is expressed.

"Each fundamental fact of language should be presented in the normal way in which it functions in the language. Let us take for an illustration declension and conjugation. The old-fashioned way of memorizing a tense person after person and declension case after case in a parrot-like fashion is pedagogically wrong, because it creates wrong associations of ideas and does not correspond to the way a verb or a noun ever occurs in a sentence."[11]

The functional method, therefore, as it applies to the learning of forms involves the study of forms as they are met in context. The Report of the Classical Investigation recommends that formal questions on inflections be not asked during the reading of a Latin passage. Such questions should be asked after the reading of the passages in comprehension. The need for this may be eliminated entirely if functional questions be asked *before* the reading to make clear to the pupils the relation of forms and syntax to the expression and comprehension of thought.[12]

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[10] Foster, W. E., "The Preliminary Statement of the Chairman of the Committee on Ancient Languages of the Commission of the N. E. A. for the Reorganization of Secondary Education." *U. S. Bureau of Education, 41,* 1913, p. 37.

[11] deSauze, E. B., "Problems in First Year Latin", *The Classical Journal,* XVI, March, 1921, pp. 341–342.

[12] *The Classical Investigation,* Part I, Princeton University Press, 1924, p. 231.

Syntax,[13] according to the functional method, should be met by pupils in an appropriate context. Recognition of these syntactical principles may be attained by:

"Developing the grammatical principle through written or printed Latin sentences illustrating the principles.

"Developing the grammatical principle through English sentences embodying the same principle.

Meeting each construction first in the Latin reading material and then developing from the context the grammatical principle involved.[14]

The Report of the Classical Investigation recommends a growing emphasis on the latter method. Furthermore, they suggest that the learning of a formal rule of syntax be postponed until the pupil has met the principle involved in his actual reading and has observed the way it is expressed in Latin. Thus a "rule" becomes a formulation of his own experience. All questions in syntax asked in connection with the comprehension of a Latin passage should, therefore, be functional in character, in order to clarify in advance difficulties anticipated in the passage.

In this study the term speech feeling will be applied to the element of grammar commonly known as syntax.

"The indispensable means to the ultimate outcomes of Latin is the ability to read and comprehend Latin as Latin; in other words the Latin speech-feeling. Insofar as correct Latin makes sense to the pupil and incorrect Latin nonsense, and he gets the thought without the constant necessity of first reframing the sentence to himself in English, to this extent he has the Latin speech-feeling. The mental process in comprehending a language consists in a succession of strains and releases of attention, of anticipations and fulfillments, guided by the conventional clues of the language. When all the requirements or anticipations aroused in the sentence are fulfilled, we feel that the utterance makes sense. The clues that arouse or satisfy these anticipations are, in English, the successions of words of certain types of meaning in fixed order; in Latin, they are inflected forms of words, with much less regard for a con-

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[13] *Op. cit.*, p. 219.

[14] Grinstead, W. J. and McDuffee, W. V., "A First Book in Latin", Appleton and Company, New York, 1928. (Preliminary Edition, p. VI.)

ventional order than in English. Hence the mastery of the Latin speech-feeling consists in the establishment in the learner's mind of a feeling for the inflected forms as making sense together, and conveying an intelligible thought."[15]

The assumption that translation is *not* an indispensable means to the attainment of Latin has been discussed previously in this chapter as the position taken by the Classical Investigation. It is clear, however, from the results of the questionnaire sent out by the Classical Investigation that in actual practice translation is frequently regarded as a means of testing a pupil's comprehension of thought. About one-half of the teachers thought that pupils should be trained to get the meaning of a Latin sentence by translating each word in the order in which it comes in Latin, and about one-third said that pupils should be required to translate "literally." These inconsistent views have caused confusion as to the various functions of "translation" and the use of the term, which has affected classroom practice. Translation of Latin into English commonly serves three uses:

1. As a method by which the pupil works out the meaning of a Latin sentence or paragraph;
2. As a method by which the pupil shows in class recitation that he has worked out the meaning of a Latin sentence or paragraph; and
3. As a method of training the pupil in English expression.

It is the belief of the Classical Investigation that the first of these three uses is unsound and wasteful and that the second, if it constitutes the chief means of testing the pupil's understanding of a reading assignment, encourages a wrong method of study. The application of "translation" to practices so divergent leads to a confusion of standards. The word "translation" should be limited in its application, therefore, to a version of the passage which conforms to the genius of the English language.[16]

"Translation" as it is usually used by Latin teachers involves the analytical[17] method:

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[16] *The Classical Investigation*, Part I, p. 196.

1. Pick out the finite verb and find out its voice, mood, tense, number and person.
2. Find the subject or subjects with which it agrees. Translate.
3. If the verb is incomplete, find the object or completion. Translate.
4. See if the subject is enlarged by any of the methods mentioned below; if it is, translate, taking the enlargements with the subject.
5. See if the object is enlarged; if it is, translate, taking the enlargements with the object.
6. Take the extensions of the predicate. Translate.
7. Translate finally, putting in the introductory conjunctions or other words not yet taken.

This method commonly followed by so-called "traditionalists"[18] involves:

1. Attack on a Latin sentence in non-Latin order.
2. "Literal" translation as a means to comprehension.
3. Looking up word meanings as a first step in comprehension.
4. In advanced work, the requirement of translation as the chief activity.
5. Memorization of forms and rules of syntax in advance of actual experience of them in reading.
6. Syntactical or inflectional dissection of a reading passage following its comprehension or translation.

The "functional method," recommended by the Classical Investigation centers on comprehension, to which syntax, inflection, and the oral and written use of Latin are auxiliary. Following this method, Latin is attacked in Latin order by means of inflectional clues. Questions on thought (not translation), previews and reviews of content and much practice in comprehension at sight is urged. True translations are not used as a means of comprehension, but primarily as a training in the English expression of thought already grasped. Translation itself belongs to later years. In earlier years it may be used as a means of developing and testing the mastery of language structure and

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[17] Welch and Duffield, *Eutropius*, New York, MacMillan Co. Quoted in *The Classical Investigation*, Part I, p. 197.

[18] Gray, M. D., Carr, W. L., Grinstead, W. J., "Research in High School Latin", *Sixth Yearbook of N. E. A.*, Chapter XVIII, p. 372.

should be distinguished as "metaphrase" or "construing," and used as a temporary device.[19]

The method of "reading Latin as Latin" contributes most effectively to a full and direct appreciation of those aesthetic qualities in the works of any author which are inevitably lost in translation.[20] "A translation may be good as translation, but it cannot be an adequate translation of the original. It may be a good poem; it may be better than the original; but it cannot be an adequate reproduction; it cannot be the same thing in another language, producing the same effect upon the mind. And the cause lies deep in the nature of poetry."[21]

In accordance with the treatment given concerning the functional approach to the reading of Latin and the language elements, vocabulary, forms and speech feeling intimately connected with this objective, the "Tests of Functional Latin" were constructed by the writer. Detailed accounts of the selection of the test items and the standardization of the tests are given in Chapter II and Chapter V in this study.

Sources of Data

A detailed analysis was made of the Report of the Classical Investigation published in 1924, the College Entrance Examination Board Word List, and the New York State Word List. In the report of the Classical Investigation, case and verb forms are recommended for use in certain years of the Latin course. Suggestions are given for reading material and the number of vocabulary words to be mastered each year was indicated. The words met most frequently in each year of Latin are listed in the College Entrance Examination Board and the New York State lists. These lists were compiled by authorities in the field after a careful analysis of the reading material covered in the standard four-year Latin course and are now looked upon as a standard for vocabulary selection. These criteria are used by authors as a guide in the writing of the new functional Latin books. They

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[19] *The Classical Investigation*, Part I, p. 196.
[20] *Op. cit.*, p. 201.
[21] Quoted by H. R. Wilson from Lewes' *Life of Goethe* in "Translations in Relation to Originals," *Classical Journal*, XVIII, Feb., 1923, p. 265.

have also served as criteria in the construction of "Tests of Functional Latin." Latin text books, published since 1924, were carefully examined, as well as twenty state and city courses of study. These were used as confirmatory sources of data only, since they merely showed that the Classical Investigation was a valid source and embodied the prevailing practice of teaching.

In accordance with the immediate objectives set up by the Classical Investigation, tests have here been devised for (1) comprehension and (2) the elements of language, namely, vocabulary, forms and speech feeling. There are two equivalent forms for each test. The tests are so constructed that either test may be given at the end or the beginning of a year independently.

In compiling the original list of items for the tests an attempt was made to construct items which would measure the reading content covering four years of Latin as well as the forms and construction specified for each year, outlined in the Report of the Classical Investigation; to use a vocabulary throughout the test that corresponds with that published by the College Entrance Examination Board, and to provide a sufficiently large number of items to be representative of the entire field of secondary school Latin. An effort was made to limit both the Comprehension Test and the Language Elements Test to a period of 45 minutes each.

Methods Used in the Study

The methods used in this study were analytical and experimental.

The steps in the study have been:

I. Evaluation of the data available:
   A. Analysis of the results of the Classical Investigation with a view to an understanding of the objectives set up by this Committee.
   B. Analysis of state and city courses of study for secondary school Latin, revised since the Classical Investigation.
   C. Analysis of so-called functional Latin text books, written in accordance with the recommendations of the Classical Investigation since 1924.
   D. Analysis of the word lists of the College Entrance Examination Board, the New York State Syllabus, and the Grinstead Latin-English Derivative Lexicon.

E. Analysis of the tests and scales of secondary school Latin with special attention to the outstanding qualities and limitations of these tests and scales.

II. The construction of a large number of test-items designed to measure adequately the reading and understanding of Latin and the mastery of the language elements, namely, vocabulary, forms and speech-feeling.

A. Temporary arrangement of the test items in the language elements tests in accordance with the placement assigned to them by the Classical Investigation and the College Entrance Examination Board Word List.

B. Experimental tryout of all test-items for approximate time limits and clear wording of directions for giving the test.

C. The preliminary tryout of the tests.

D. The selection of test items for the final tests.

E. Validation of final tests by correlation with standardized Latin tests, school marks, I.Q.'s, etc.

F. Determination of reliability of final tests, Form A with Form B.

G. The establishment of tentative standards.

The material for the tests was assembled during the school year 1929–1930. The preliminary testing was done near the close of the fall term of 1930. The final tests were constructed immediately following an analysis of the results of the preliminary tests. The final tests were given at the close of the spring term of 1931 and standardization was completed the following summer. The tests were again given in the beginning of the fall term of 1931 to establish October norms and to further establish the validity of the tests by correlating with them the Ullman-Kirby Latin Comprehension Test, the White Vocabulary Test and the Godsey Latin Composition Test.

Review of Previous Tests

Available tests in the field of secondary school Latin were carefully examined as to content and construction (see Table I). Studies concerning the analyses of these tests were investigated.

TABLE I

ANALYSIS OF CONTENT AND ARRANGEMENT OF LATIN ACHIEVEMENT TESTS MEASURING COMPREHENSION, VOCABULARY, FORMS AND SYNTAX AND SHOWING HOW EACH MEETS THE RECOMMENDATION OF THE CLASSICAL INVESTIGATION

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Comprehension of Latin passage by thought questions	..	..	..	x	..	..	..	..	x	..	..	x	..	x	x
Translation of Latin passage	..	..	..	..	..	..	..	..	..	..	..	x	..	..	..
Translation of Latin sentences	x	..	..	..	..	..	..	x	..	..	..	x	..	..	..
Composition	..	..	..	..	..	..	..	..	..	..	..	x	x	..	..
Vocabulary Presented in Context	..	..	..	..	..	..	..	..	..	..	..	..	..	x	x
Vocabulary Presented in Isolation	x	..	..	..	..	x	x	x	..	..	..	x	x	..	..
Case Forms in Isolation	..	..	..	..	..	..	x	..	..	..	..	x	..	..	..
Verb Forms in Isolation	..	..	x	..	..	..	..	..	..	x	..	x	x	..	..
Noun and Adjective Forms in Isolation	..	..	..	..	..	..	..	..	..	x	..	x	x	..	..
Case Forms in Context	..	..	..	..	..	..	..	..	..	..	..	..	..	x	x
Recognition of Rules of Grammar in Isolation	..	..	..	x	..	..	..	..	..	..	..	x	x	..	..
Syntax Presented in Latin Context	..	..	..	..	..	..	..	..	..	..	..	..	..	x	x
Syntax Presented in English Context	..	x	..	..	x	..	x	..	..	..	x	x	..	..	..
Translation Assumed	x	x	x	..	x	x	x	x	x	x	x	x	x	..	..
Scoring Objective	..	x	x	..	x	x	x	x	..	..	..	..	x	x	..

The following key may be used to locate the various Latin Achievement Tests[22] expressed by the key letters at the heading of the column in Table I:

A. Henmon, V. A. C.: Latin Tests.
B. Pressey, L. W.: Test in Latin Syntax.
C. Tyler, Caroline and Pressey, S. L.: Test in Latin Verbs.
D. Ullman, B. L. and Kirby, T. J.: Latin Comprehension Test.
E. Godsey, Edith R.: Latin Composition Test.
F. Stevenson, P. R.: Latin Vocabulary Test.
G. Inglis, Alexander: Harvard Latin Tests.
H. White, D. S.: Latin Test.
I. Deferrari, R. J., and Foran, T. G.: Tests in Latin Comprehension.
J. Deferrari, R. J. and Foran, T. G.: Tests in Latin Vocabulary and Forms.
K. Hutchinson, M. E.: Latin Grammar Scales.
L. Thompson, H. G. and Orleans, J. S.: New York Latin Achievement Tests.

[22] See Bibliography for complete reference of tests.

M. Powers, F. F.: Diagnostic Latin Test.
N. Haage, Catherine M.: Tests of Functional Latin.
O. Method of teaching recommended by Classical Investigation.

With the exception of two published tests and the one constructed for use in this study, all others were put on the market in connection with or as a result of the Classical Investigation. The most recent date of publication is 1928.

Three previously standardized Latin tests are used in connection with this study to aid in the validation of the Tests of Functional Latin. They are:

The Ullman-Kirby Latin Comprehension Test, constructed by B. L. Ullman and T. J. Kirby in 1922.
The White Latin Test, constructed by D. S. White in 1924.
The Godsey Latin Composition Test, constructed by Edith Godsey in 1922–1923.

The Ullman-Kirby Test, constructed as an instrument to use in the Classical Investigation, consists of ten paragraphs of increasing difficulty, each followed by three or four questions in English based upon the thought of the paragraph. The reliability of the test, based on the results from 423 pupils, is stated by the author (March, 1932) to be .53, .65, .57, .71 for each year of Latin respectively, or .85 for the years combined.

The White Test consists of a vocabulary of 100 words offering four English words from which the pupil is to select the correct meaning. This part of the test is followed by an exercise in selecting the proper translation of twenty English sentences. The reliability of the test is reported by the author (June, 1924) to be .85. Norms are established based on the results of 1200 pupils.

The Godsey Latin Composition Test[23] is made up of three sections, each containing eleven sentences. Each section also contains, in the lower part of the page, a group of fifteen or sixteen rules, eleven of which cover the constructions involved in the sentences given. The remainder of the rules are given in

[23] Godsey Latin Composition Test (Manual).

order that a choice may not be too obvious. The principle of choosing from four multiple choice answers is employed in both sentences and rules. After the student has made his choice for completing each sentence, his attention is directed by the numbers at the right to four of the rules at the bottom of the page, only one of which applies. The other three rules were cited with a view to requiring the student to make careful distinctions in his choice of the appropriate rule. Norms based on 20,000 cases have been established through the Classical Investigation. The sentence scores have been found to correlate from .33 to .85 with vocabulary, translation and syntax tests, whereas the rule scores showed much lower correlations. No data were available to show the reliability of the test.[24]

These three tests were selected because they correspond most nearly in the objectives tested with the tests constructed in this study. Of the three the Ullman-Kirby test was best suited for the purpose. Both comprehension tests aim to test the thought of a given Latin paragraph. The Ullman-Kirby Test differs from that here presented in containing only thirty-three questions while the test in this study contains sixty-one questions. The Vocabulary tests differ entirely in form. The White test offers 100 Latin words in isolation, each followed by four English words as a multiple choice response. The Vocabulary Test in this study presents forty items in the form of Latin sentences, to complete which the pupil must select one of the five Latin words offered. The Godsey Test was selected as the test most similar to the Form and Speech Feeling Tests in this study. The rules which a pupil is asked to select for each sentence involve a knowledge of case forms and their uses in a traditional way. The Godsey test on sentences involves a knowledge of principles of syntax, which is somewhat similar to the speech-feeling test used in this study.

With the exception of the Ullman-Kirby Comprehension Test, all other available tests assume the translation method. There seems to be a prevailing opinion that an objective test of Latin and a test of functional Latin are the same. The word "functional" as it is used in the report of the Classical Investigation

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[24] Ruch, G. M. and Stoddard, G. S., *Tests in High School Instruction*, New York, World Book Co., 1927, pp. 170–171.

and as it will be used in this study, is concerned with a method of teaching which will result in a pupil's ability to recognize and interpret language elements in context, including Latin words, case forms and their uses and other principles of syntax. From an analysis of the tests used in the Classical Investigation it is noted that the tests used were objective but that the forms and principles of syntax tested were in isolation and not in context. Therefore, it should be emphasized again that the outstanding purpose of this study is to construct standardized tests of secondary school Latin which will validly test the Immediate Objectives set up by the Classical Investigation in a functional way. An effort has been made to test vocabulary, forms and principles of syntax in context—an attempt which has not been made extensively in any previously constructed Latin tests. Comprehension has been tested hitherto by means of thought questions in recall form in several tests (see Table II). These tests,[25] however, with the exception of the Ullman-Kirby test, have been criticized for lack of objectivity in scoring.

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[25] Odell, C. W., *Educational Measurements in High School*, New York, Century Co., 1930, pp. 174–175.

II

Analysis of Material

Of major importance in the construction of a test is the validity of the test. It is necessary that the content be made up of subject matter which has been accepted for classroom use. Test items must form a composite and representative sampling of the essentials of subject matter in which pupils are asked to show mastery. These items must be selected on the basis of criteria more objective than merely the personal opinion of the present test constructor. Therefore, criteria must be decided upon for the selection of the test items in the preliminary and final forms of the test.

Ruch and Stoddard[1] give the following summary of the methods of validating tests.

1. Textbook analysis.
2. Analysis of courses of study.
3. Analysis of final examination questions.
4. Pooled judgments of competent persons.
5. Use of rating scales in setting up criteria.
6. Correlations with school marks or other measures of school success.
7. Increase in percentage of successes with successive ages or grades.
8. Correlations with previously validated measures.
9. Differential scores shown by two groups known to be widely separated upon a scale of ability.
10. Determination of social utility.
11. Logical or psychological analysis.
12. Correlations with tests of other intellectual, non-intellectual or educational abilities.

It will be shown in this study that Methods 3, 4, and 5 have been completed in connection with the Classical Investigation. This investigation was conducted on so large a scale that it would be impossible to duplicate the efforts and results of so large an

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[1] Ruch, G. M. and Stoddard, G. S., *Tests and Measurements in High School Instruction*, New York, World Book Co., 1927, p. 304.

organization in a single study. It will be shown later in this chapter that the majority of text books and courses of study published since the Classical Investigation have incorporated the recommendations made by that Committee without reservation. For these reasons the results and the recommendations made by this group have been accepted as the chief source of data in this study. Although the attacks against the Classical Investigation have come from many sources, no attempt will be made in the study to defend the investigation. A brief analysis of recent text books[2] and courses of study made by the present investigator showed that the "functional" method, based on the Report of the Classical Investigation is actually in wide use. All other methods were carried out in detail and will be reported in Chapter V of this study. It is assumed that the determination of social utility was fixed by the committee set up by the organization.

Test material for this study was adapted from the following sources:

1. Report of the Classical Investigation, Part I.
2. College Entrance Examination Board requirements.
3. College Entrance Examination Board Word List.
4. New York State Word List.
5. Grinstead Latin-English Derivative Lexicon (not published).
6. Text books which purport to follow the recommendations of the Classical Investigation.
7. City and state courses of study.

In this chapter these sources of data will be analyzed. In succeeding chapters of the study other means of attaining validity and reliability will be presented, such as:

1. Correlations of test scores with school marks.
2. Correlation of test scores with Intelligence Quotients.
3. Correlation of test scores with scores of previously validated tests.
4. Intercorrelations of the Comprehension test with other parts of the test.
5. Correlation of the two forms (A and B) of the test.

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[2] Chapter II, pp. 51–53 of this study.

1. *Report of the Classical Investigation*

The Classical Investigation was conducted in 1921–1923 by the American Classical League in order to determine definitely the status of the classics at that time in the secondary schools of the United States. The plan of the investigators was to discover the facts of the situation as they existed and then to make recommendations.[3] In order to do this, the aims and objectives were set up by the investigators, which were based on a general survey of existing conditions in the teaching of Latin, gleaned from questionnaires, and results of tests; from which data recommendations were made affecting content and methods of teaching Latin.

It was discovered that out of every hundred pupils studying Latin in the first year of high school, 69 study it for two years, 31 for three years and 14 for four years. The work of each year, therefore, and particularly the first year, should be so carefully organized as to be worth while in itself. It was, therefore, important to select the "ability to read and understand Latin" as the immediate objective as early as the first year of Latin.

The validity of each objective finally decided upon was determined by (1) scientific studies and (2) expert opinion. The chief methods used in securing these expressions of opinion were:

1. A comprehensive general questionnaire filled out by 1150 experienced secondary teachers of Latin and including objectives, content and method.
2. A special score card for the evaluation of objectives, year by year filled out by more than 300 teachers in various parts of the country.[4]

Analysis of these opinions resulted in the determination of the following objectives outlined for a four-year course:

OBJECTIVES FOR THE FOUR-YEAR COURSE

(Taken from the Classical Investigation Report)

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[3] "The Classical Investigation—The Work of the First Two Years", *Classical Journal*, June, 1923, Vol. XVIII, p. 548. Quoted in the *Classical Investigation*, Part I, p. 30.

[4] Hare, A. D., "An Evaluation of Objectives in the Teaching of Latin", *Classical Journal*, December, 1923, Vol. XVIII, pp. 155–165.

1. Immediate Objective[5]

The indispensable primary immediate objective which underlies the entire process for each year of the course is progressive development of power to read and understand Latin. This involves an increasing mastery of the elements of the language, namely, vocabulary, forms and syntax. The relative emphasis to be attached to these elements year by year will depend upon the contribution which they may make to the ability to read and understand Latin or to the attainment of certain of the ultimate objectives.

2. Ultimate Objectives[6]

The ultimate objectives are classed as follows:

1. Instrumental and application objectives, the most important of which are a knowledge of the Latin elements in English, skill in the use and comprehension of English, and increased ability to learn other foreign languages.
2. Disciplinary objectives, including the development of many desirable general mental habits and ideals, such as attention, accuracy, and the habits of reflection, discrimination and logical analysis.
3. Cultural objectives, such as historical perspective, a biographical sense, an understanding of the continuity and meaning of our civilization, right attitudes toward social situations, appreciation of the general and specifically classical elements of our own and foreign literature, and an understanding of the simpler principles of language structure.

The interdependence of these two aims was recognized in determining the content of the course. For example, reading material must provide for the progressive development of the power to read and understand Latin and at the same time assist in the development of a general historical-cultural background. The vocabulary and syntax stressed in a narrative must contribute to the power to read and understand Latin as well as to the attainment of the ultimate objectives.

The chief sources of information used to secure data to determine the content of secondary school Latin were:

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[5] See p. 13 of this study.
[6] *Ibid.*

1. Questionnaires on changes desired in the reading content of the Latin course filled out by teachers of Latin in various sections of the United States.[7]
2. A question blank on content and method filled out by 3600 students completing their fourth year of Latin in secondary schools.[8]
3. Colthurst and Jones studies, based on returns from questionnaires on the reading content of the Latin course in 445 schools in Iowa, Kansas, Minnesota, Missouri, Nebraska, North and South Dakota, Ohio, and Pennsylvania.[9-10]
4. Questionnaire on the content of Junior High School Latin under the direction of James M. Glass of the State Department of Education, Harrisburg, Pennsylvania.[11]
5. The Pound and Helle study based on an analysis of 273 local examinations in Latin from typical secondary schools.[12]

An analysis of the general questionnaire indicated that the content of the four-year course in Latin was too extensive to provide for the satisfactory attainment of the objectives set up by the Classical Investigation Committee. This congestion was found to be caused by the introduction of too many formal elements during the first year, a premature introduction to classical authors, the lack of easy reading material to develop a pupil's ability to read Latin as Latin, and inadequate emphasis given to the attainment of the ultimate objectives.

Of the teachers filling out the general questionnaire 91 per cent would have read some easy or "made" Latin dealing with classical themes before reading the first classical author. Fifty-four per cent of those teachers who preferred Caesar as the first classical author to be read would have begun Caesar in the fourth semester, 42 per cent in the third semester and only 4 per cent

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[7] *Report of Classical Investigation*, Part I, pp. 87–88.

[8] Grise, F. C., "Content and Method in High School Latin", Nashville; George Peabody College for Teachers, 1924. Doctor's Dissertation.

[9] Colthurst, C., "The Content of Latin Courses in a Number of North Central States", University of Chicago, 1923. Master's Thesis.

[10] Jones, A. R., "The Amount and Kind of Latin Read in the Secondary Schools of Pennsylvania and Ohio in 1921–1922", University of Pittsburgh, 1923. Master's Thesis.

[11] Pound, L. G., Helle, R. H., "An Investigation of the Objectives in the Teaching of Latin", Ohio State University, 1923. Master's Thesis.

[12] The dissertations noted above are quoted in the *Classical Investigation*, Part I, pp. 88–89.

in the second semester. Eighty per cent of these teachers would have read less of Caesar than they were reading at that time, 56 per cent less of Cicero, and 52 per cent less than six books of Vergil.[13]

Questionnaires filled out by teachers and Classical Associations in various parts of the United States followed the same general trend found in the general questionnaire. It was found in the Colthurst and Jones studies that a number of schools were attempting to relieve the congestion of content by reading a smaller amount of prescribed Latin. Still other schools were known to resort to Latin clubs to supplement classroom instruction,[14] thereby indicating an insufficient amount of time to cover adequately the material included in the standard Latin course.

The Adams study based on data secured from 178 colleges and universities showed that 74 per cent of these institutions accepted for entrance credit the reading of less classical Latin than that prescribed in the standard course. Although a majority of teachers expressed a desire for greater freedom of choice as to the Latin authors to be read, the Jones study reported that 86 per cent of the schools investigated read precisely the content of the standard course during the second year, 83 per cent during the third year, and 95 per cent during the fourth year.

The College Entrance Examination Board issued the following recommendations for reading matter in 1919:[15]

1. The Latin reading, without regard to the prescription of particular authors and works, shall not be less in amount than Caesar, Gallic War I—IV; Cicero, orations against Catiline, for the Manilian Law, and for Archias; Vergil, Aeneid, I–VI.
2. The amount of reading specified above shall be selected by the schools from the following authors and works: Caesar (Gallic and Civil Wars) and Nepos (Lives); Cicero (orations, letters and De Senectute); and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid); and Ovid (Metamorphoses, Fasti and Tristia).

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[13] *Report of Classical Investigation*, Part I, pp. 101–102.

[14] Report of Committee on Classical Languages, N. E. A., on Reorganization of Secondary Education.

[15] Document 101, College Entrance Examination Board, August 1, 1919. Quoted in the *Classical Investigation*, Part I, p. 116.

That the reading matter recommended in the first part of the College Board requirements has been rigidly adhered to was admitted by many teachers. This conformity to the standard course was attributed to the desire for uniformity, and to the requirements of state and local courses of study, and of text-books.

On the basis of conditions existing in 1921-1923 the following recommendations were made by the committee in charge of the Classical Investigation with reference to the reorganization of the content of the four-year secondary school course in Latin:

1. That the formal study of the elements of language during the first year be reduced by the postponement of many forms and principles of syntax until later in the course; that the formal study of some of these forms and principles be omitted entirely from the secondary course; and that in general the functional rather than the formal knowledge of these elements be emphasized throughout the course.
2. That the vocabulary, forms and principles of syntax to be learned in each successive year of the course be selected in such a way as to provide conditions most favorable for developing progressive power to read and understand Latin and for attaining the ultimate objectives which teachers regard as valid for their pupils.
3. That not less than 80 pages of easy well-graduated and attractive reading material be introduced into the course, beginning at the earliest possible point and continuing at least throughout the third semester.
4. That this easy reading material should be such as to contribute both to the progressive development of power to read and understand Latin and to the attainment of the historical-cultural objectives which teachers regard as valid for their pupils.
5. That practice in writing Latin be continued throughout the first, second and third years. It may well be omitted from the work of the fourth year in order to allow full time for reading.
6. That the amount of classical Latin authors to be read in the standard four year course shall not be less than 35 pages of Teubner text in the second year, 60 pages in the third year, and 100 pages in the fourth year.[16]
7. That there be enough freedom of choice in the Latin authors to be read to make it easily practicable for teachers to select the reading material

[16] In terms of Teubner text (37 lines to a page) the classical Latin in the present standard course amounts to 80 pages of Caesar, 82 pages of Cicero and 128 pages of Vergil.

which in their judgment will provide the best medium for attaining, during the secondary course, the historical-cultural objectives which they regard as valid for their pupils.

8. That such additional material of instruction be introduced into the course as will provide for fuller attainment of various ultimate objectives of the study of Latin.[17]

The reading of Latin has been defined in the Introduction of this study as the comprehension of thought directly through the Latin as it stands, whether or not this comprehension is followed by translation into English. In order to accomplish this, easy reading material, suitable as a medium for developing the power to read Latin, should be introduced into the course as soon as the study of Latin is begun. This reading material should be abundant, varied in form, and attractive in content, should contribute to the historical-cultural objectives, and should be adapted to the ability of boys and girls.

The selection of material from classical literature should also meet the requirements of providing for the progressive development of power to read Latin and for the attainment of the historical-cultural objectives. The greater part of the reading material, no doubt, still is selected from Caesar, Cicero, and Vergil, but a greater amount of freedom exists in this selection.

The same two criteria form the basis for "made" Latin now found in the first semester of Second Year Latin books. The reading content includes such topics as classical mythology, Roman traditions, Roman home life, and fables illustrative of Roman thought.

The vocabulary which should be mastered in each year of the course should be selected for the purpose of providing conditions most favorable for the progressive development of power to read and understand Latin and for the attainment of certain ultimate objectives. The reading content of the first two semesters involves a reading experience with a larger vocabulary than the 500 words commonly fixed as the standard for mastery. A large percentage of these words are not intended for mastery.

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[17] *Report of the Classical Investigation*, Part I, pp. 123–24.

"The words which a pupil meets in his reading in any year of Latin may be divided into three groups: (1) words which occur but rarely and the meaning of which must be determined to interpret a Latin passage with no attempt to retain them permanently; (2) words which occur rather frequently and which should be a part of the pupil's reading vocabulary; (3) words sufficiently important to demand a thorough mastery because of their frequent use in Latin or because of their service-ability in English or other languages."[18]

The inflectional forms necessary in the secondary course in Latin should be selected solely on the basis of the extent to which they contribute to the progressive development of power to read and understand Latin. The recommendation made by the committee of the Classical Investigation suggests a reduction in the number of forms to be included in the work of the first two semesters, along with a more gradual introduction of the forms, provision for repeated reading experience with the forms to be mastered; and an emphasis upon functional rather than formal knowledge in the learning of these forms. An appearance of forms not selected for mastery at a given time permits freedom in reading material and by creating a need for new knowledge provides for motivation of a better mastery of forms when they are finally taken up.

The principles of syntax should also be selected so as to provide conditions most favorable for attainment of progressive power to read and understand Latin and for the attainment of certain ultimate objectives. The Classical Investigation further recommends that the number of principles of syntax to be mastered be reduced and emphasis placed on the functional rather than the formal knowledge of the principles taught. Recognition of constructions is claimed to be of value only in assisting pupils to read and comprehend the thought of Latin.

The Pressey test given in conjunction with the Classical Investigation does not involve a knowledge of technical names of constructions but merely the ability to select from four choices offered the Latin word or phrase which correctly expresses the principle of syntax given in English. The results of this test showed the following percentages of correct responses in a knowl-

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[18] Report of the *Classical Investigation*, Part I, p. 135.

edge of noun, pronoun, and adjective constructions included in 1922 in the work of first year Latin.[19]

	PER CENT
Accusative of place to which with *ad*	71
Ablative of manner with *cum*	69
Ablative of accompaniment with *cum*	66
Accusative of direct object	65
Genitive of the whole	63
Dative of indirect object	62
Ablative of agent	61
Adjective in direct agreement	57
Ablative of place where with *in*	55
Ablative of time at which	54
Noun in apposition	54
Accusative of duration	53
Nominative in the predicate with *est*	53
Ablative of place from which with *ex*	51
Genitive of possession	51
Ablative of means	48
Accusative subject of infinitive	48
Genitive of description	48
Dative of reference	45
Ablative of cause	44
Adjective in predicate agreement	43
Dative of purpose	42
Accusative in the predicate	37
Ablative absolute	34
Ablative of degree	34
Ablative of respect	33
Nominative in the predicate with *factus est*	28
Ablative of comparison	27
Dative with adjectives	27
Dative with special verbs	26
Dative of possession	25
Ablative with special verbs	25

Results of the Godsey test showed at the end of the first year

[19] *Report of Classical Investigation*, Part I, pp. 137–138.

the following percentages of correct responses in a knowledge of verb constructions included in 1922 in first year Latin:[20]

	PER CENT
Subjunctive in a clause of purpose (negative)	30
Subjunctive in a relative clause of purpose	27
Subjunctive in a conditional sentence contrary to fact	27
Agreement of verb with subject (perfect passive)	26
Subjunctive in exhortation or command	24
Subjunctive in a clause of result	23
Subjunctive in a clause of cause	23
Infinitive in indirect statement	20
Passive periphrastic	17
Gerundive construction	17
Subjunctive in a clause of fear	16
Subjunctive in a substantive volitive clause	8
Subjunctive in an indirect question	4

It is evident from the above list that pupils at the time of the Classical Investigation were attempting to read classical Latin with a very meager mastery of those principles of syntax considered essential. This prevailing condition caused the committee of the Classical Investigation to recommend that a principle of syntax be inserted in a Latin course because of its serviceability in assisting in the interpretation of the thought of Latin and in the attainment of other objectives.

The principles of syntax taught during the first semester have, therefore, been limited to a few noun, verb, and adjective constructions. Many noun and verb constructions formerly included in first year work have been distributed over the work of later semesters. The subjunctive, it was recommended, should not be undertaken before the third semester.

The following specific recommendations were made by the Committee of the Classical Investigation regarding the content of the Latin course:

Reading[21]

First Semester: Not less than 15 pages of continuous easy Latin selected in accordance with the criteria already defined. This material may be

[20] *Report of Classical Investigation*, Part I, p. 138.
[21] *Report of Classical Investigation*, Part I, pp. 144–151.

selected from one or more beginners' books supplemented by selections from certain approved readers.

Second Semester: Not less than 25 pages of continuous easy Latin of somewhat greater difficulty than that read in the first semester, supplemented by selections from certain approved readers.

Third Semester: Not less than 40 pages of continuous easy made or adapted Latin selected in accordance with the criteria already defined. This material may be taken from beginners' books and second-year books supplemented by selections from approved readers.

Fourth Semester: An amount of classical Latin equivalent to not less than 35 pages of Teubner text selected in accordance with the criteria already defined from such authors and words as:

Aulus Gellius' *Noctes Atticae*
Caesar's *Gallic War*, Books I—VII
Caesar's *Civil War*, Books I–III.
Eutropius' *Historia Romana*
Nepos' *Lives*
Ovid's *Metamorphoses*
Phaedrus' *Fables*
Quintus Curtius Rufus' *Life of Alexander the Great*
Terence's *Phormio*
Valerius Maximus' *Facta et Dicta Memorabilia*
and many other approved readers.

Fifth and Sixth Semesters: An amount of classical Latin equivalent to not less than 60 pages of Teubner text selected in accordance with the criteria already defined from such authors and works as:

Caesar's *Gallic War*—Books I–VII.
Caesar's *Civil War*, Books I–III
Cicero's *Orations*, e.g., *Archias, Catiline I, III, Ligarius, Manilian Law, Marcellus, Milo, Murena, Philippic I, IV, Roscius Amerinus, Verres.*
Cicero's *Letters* (Selected)
Cicero's *Essays, De Senectute, De Amicitia, De Officiis*, Book III, *De Finibus*, Books I and II
Nepos' *Lives*
Ovid's *Metamorphoses*
Pliny's *Letters* (Selected)
Sallust's *Catiline and Jugurthine War*
Terence's *Phormio*
Vergil's *Aeneid*, Books I-VI

or from any reading listed under the fourth semester.

Seventh and Eighth Semesters: An amount of classical Latin equivalent to not less than 100 pages of Teubner text selected in accordance with the criteria already defined from such authors and works as:

Cicero's *Orations, Letters* and *Essays*
Catullus' *Poems*
Horace's *Odes*
Livy's *History*
Ovid's *Metamorphoses, Tristia, Heriodes* and *Fasti*
Plautus' *Captivi*
Pliny's *Letters*
Terence's *Andria*
Vergil's *Aeneid*, I-XII, *Bucolics and Georgics*
or from readings listed under fifth and sixth semesters.

Vocabulary

It was recommended that from 400 to 500 words be selected for thorough mastery in the first year of the course and approximately 500 words in each succeeding year of the course.[22]

Syntax

The following principles of syntax are to be thoroughly mastered during the normal four-year course:[23]

First Semester

Agreement
- Verb with subject
- Adjective with noun
- Appositive with noun or pronoun
- Predicate noun or adjective with subject

Case Uses:
- Nominative as subject
- Genitive of possession
- Dative of indirect object
- Accusative of direct object
- Accusative in prepositional phrases including *ad* and *in* expressing place whither
- Vocative in direct address

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[22] *Report of Classical Investigation*, Part I, pp. 156–157.
[23] *Op. cit.*, pp. 157–160.

Ablative of means
Ablative in prepositional phrases including those with *ab, de, ex, cum,* in expressing separation, place whence, agent, manner, cause, place where, accompaniment

Second Semester

Agreement:
Pronoun with antecedent
Case uses:
Accusative as subject of infinitive
Accusative of duration or extent
Ablative of time
Verb uses:
Present infinitive in indirect discourse

Third Semester

Case uses:
Dative with intransitive verbs
Dative with compounds
Accusative of place whither without a preposition
Ablative absolute
Ablative of respect
Ablative with deponents
Verb uses:
Independent volitive subjunctive
Subjunctive in clause of purpose with *ut* and *ne*
Subjunctive in clause of result with *ut* and *ut non*
Subjunctive in cum clause of situation
Subjunctive in indirect questions
Complementary infinitive
Perfect and future infinitives in indirect discourse

Fourth Semester

Case uses:
Genitive of description
Dative of reference
Dative of purpose
Dative of possession
Ablative of separation without a preposition
Ablative of description
Verb uses:
Subjunctive in a substantive volitive clause
Subjunctive in a relative clause of purpose
Subjunctive in a clause of anticipation

Subjunctive in a cum clause of cause
Subjunctive in a subordinate clause in indirect discourse
Infinitive as subject or object
Gerundive

Fifth and Sixth Semesters

Case Uses:
Dative with adjectives
Dative of agent
Ablative of comparison
Ablative of degree of difference
Locative

Verb uses:
Subjunctive in cum clause of consession
Subjunctive in a relative clause of description
Subjunctive in a substantive clause of fact with *ut*
Passive periphrastic
Subjunctive in present and past conditions contrary to fact

Seventh and Eighth Semesters

Case Uses:
Genitive with adjectives
Genitive with verbs of remembering and forgetting
Genitive with impersonal verbs
Double accusative with verbs of making, etc.

Verb uses:
Historical infinitive
Subjunctive in wishes
Subjunctive expressing possibility, obligation, etc.

Forms

The following forms are to be mastered during the normal four-year course:[24]

First Semester

Nouns of the first and second declensions
Adjectives of the first and second declensions
Formation of adverbs from adjectives of first and second declensions
Pronouns: *quis, ego, tu, is*
Verbs:
Indicative of *sum* (except future perfect)

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[24] *Report of Classical Investigation*, Part I, pp. 160–162.

Indicative active and passive of the first and second conjugations (except future perfect)
Imperative of all conjugations present active second singular and plural
Infinitive of the first and second conjugations present active and passive
Principal parts of selected verbs of first and second conjugations

Second Semester

Nouns of the third declensions
Adjectives of the third declension, *i* stem and comparative
Formation of adverbs from adjectives of third declension
Comparison of regular adjectives
Pronouns, *qui, hic, ille, ipse*
Verbs:
Indicative of third and fourth conjugations active and passive
Imperative of all conjugations present passive second singular and plural
Present infinitive active and passive of the third and fourth conjugations
Perfect passive participle of all conjugations
Principal parts of selected verbs

Third Semester

Nouns of fourth and fifth declensions
Irregularities in the declension of pronominal and numeral adjectives
Comparison of the irregular adjectives *magnus, parvus, multus, bonus, malus*
Verbs:
Subjunctive of *sum* (except the perfect)
Subjunctive active and passive of all conjugations (except the perfect)
Perfect infinitive active and passive, the future infinitive active of all conjugations
Present and future active participles of all conjugations
Gerund
Principal parts of selected verbs

Fourth Semester

Pronouns: *aliquis* and *quisque*
Verbs:
Irregularities in the conjugation of possum, eo, fero, volo, nolo, malo
Deponent verbs of all conjugations
Gerundive of all conjugations
Principal parts of selected verbs

Fifth Semester

Nouns:
Locative

Verbs:

Future perfect indicative active and passive of all conjugations
Perfect subjunctive active and passive of all conjugations
Supine
Principal parts of selected verbs

With the exception of the vocabulary used in the tests of vocabulary, forms and speech feeling, the content recommended by the committee of the Classical Investigation for the four-year course in Latin has been used in the present study as the chief source of data for the test items. The comprehension tests, for example, contain passages listed from Caesar's *Civil War*, Cicero's *Roscius Amerinus*, Vergil's *Eclogues and Bucolics* as well as passages of "made" Latin for first year pupils. The test on forms, which involves a functional knowledge of case uses also, follows closely the outline of forms and syntax reported in the Classical Investigation and reproduced in this chapter. This is also true of the test on speech-feeling. The choice of vocabulary of the various test items was based on the word list of the College Entrance Examination Board.

2. Requirements of the College Entrance Examination Board

The College Entrance Examination Board,[25] which was founded in 1900 consists at present of thirty-nine members, representing universities, colleges, and scientific schools, and eleven members representing the interests of the secondary school. It is the purpose of the Board to examine boys and girls in the subjects taught in the secondary schools to determine their fitness to pursue more advanced studies. It is claimed that the results of the Board's examinations are accepted by every university, college, and scientific school in the United States.

The following specific requirements are made of those offering four units of entrance credit in Latin:[26]

1. The Latin reading shall not be less in amount than 80 pages of easy made or adapted Latin and 195 Teubner pages of classical Latin.

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[25] *Examination Questions in Latin and Greek*, 1921–1930, p. 3.
[26] *Report of Classical Investigation*, Part I, pp. 162–168.

2. Of the 195 pages specified above approximately 50 pages shall be prescribed and the remaining pages shall be selected from classical authors at the discretion of the schools.

In determining the scope of the examinations it is stated that the most important factor in ascertaining the fitness of a candidate to continue the study of Latin in college is his ability to comprehend and to translate Latin at sight. Therefore, candidates are examined as to their ability to answer questions upon the thought of sight passages, the translation of which is not required.

The following statement and recommendations are made in accordance with a report presented to the College Entrance Examination Board in November, 1925, by a Commission appointed to frame recommendations on the basis of the Classical Investigation conducted by the Advisory Committee of the American Classical League:[27]

I. There will be no prescribed readings in Latin, but the following recommendations are made:
   1. In the second year the early reading should be easy Latin which may be "made" or adapted Latin; not less than one semester of this year should be devoted to the reading of selections from Caesar. The reading for the year may also include easy selections from such authors as Gellius, Eutropius, Nepos, Phaedrus, Rufus, and Valerius Maximus, or books of selections containing some of these together with other authors of prose works.
   2. In the third year, if the reading be in prose, not less than one semester should be devoted to the reading of selections from Cicero; the reading for the year may also include selections from such authors as Pliny, Sallust, and Livy, or books of selections containing these and other authors of prose works.
   3. In the fourth year, if the reading be in poetry, not less than one semester should be devoted to the reading of selections from Virgil; and the reading for the year may also include selections from such works as the *Metamorphoses*, *Tristia*, *Heriodes*, and *Fasti* of Ovid, or books of selections containing poems or extracts from Ovid or from other poets.

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[27] *College Entrance Examination Board, Definition of Requirements*, pp. 23–24.

II. The examination will be adapted to the proficiency of those who have studied Latin in a systematic school course of five lessons each week extending through two, three, or four years.

The paper will include:

1. Passages of Latin prose and verse of varying degrees of difficulty for translation.
2. Passages of Latin prose and verse for comprehension. Candidates will be asked questions to test their understanding of these passages but will not be required to translate them.
3. English passages for Latin composition for candidates presenting two or three years of Latin. Candidates presenting four years of Latin in one examination will also be expected to answer these questions.
4. In connection with the different passages, questions on forms, syntax, and the idioms of the language, as well as such questions on the subject matter, historical and literary, as may be fairly asked.

An examination of the College Entrance Examination Board[28] questions in Latin over a ten-year period, 1921-1931, revealed a decided change in policy during the last five years with a tendency to follow the recommendations of the Classical Investigation. In 1921 the Comprehensive Examinations in Latin required a candidate to translate a given passage from Caesar, Cicero or Vergil, or all of the passages. The translation of each passage was followed by questions on declension of nouns, conjugation of verbs, and the syntax of certain words. The translation of English sentences into Latin completed each year's examination.

This same type of examination continued to be given until June, 1929, when an additional part was added to the examinations constructed for third and fourth year candidates. A second passage from Cicero and Vergil was inserted with the following directions:[29]

"Do not write a translation of the following passage, but read it carefully and answer the questions set below." Directions introducing the questions read: "You must find your answers to the

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[28] *Examination Questions in Latin and Greek*, 1921–1925, 1926–1930, Ginn and Co., New York.

[29] *Examination Questions in Greek and Latin*, 1925 New York, Ginn and Co., p. 78.

following questions in the passage itself. Answer each question fully."

In this way the reading of Latin as Latin is tested without requiring translation into English. Elements of grammar, however, continue to be tested in the traditional way by asking a candidate to write noun and verb forms in paradigm fashion and to "account for the case" of certain words.

The College Board examinations are without a doubt valid for their purpose even though they are largely traditional. College Board examination requirements seem to set the standard in third and fourth year Latin particularly. Teachers admitted as early as the time of the Classical Investigation that their "freedom" in content and methods of teaching was largely governed by the content of the College Board examinations.[30] From the letters received from many of the teachers cooperating in the present study it may be inferred that teachers of first year Latin emphasize the functional method of teaching Latin largely because the "group is unselected and the majority will not prepare for college." This statement is strengthened by a statement in the Report of the Classical Investigation which estimates that less than 5 per cent of the pupils complete second year Latin and continue it in college.[31] Teachers of the succeeding years of Latin, particularly the third and fourth, know that their Latin students are, with few exceptions, those who will offer Latin for College entrance. The recommendations of the Classical Investigation are seldom placed in the foreground by these teachers but in their stead is placed this objective—the ability to *translate* Latin. In order to accomplish this purpose paradigms are drilled and each sentence is broken into tiny bits for which rules of syntax must be mechanically recited. It seems rather necessary, therefore, to construct a test for this group in order to discover whether the primary immediate objective is being attained by those who have for their goal the ability to pass the College Board Examination.

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[30] *Report of Classical Investigation*, Part I, Princeton University Press, 1924, pp. 120–122.

[31] *Op. cit.*, p. 162.

3. College Entrance Examination Board Word List

So long as certain works of certain authors are accepted as the norm for reading in preparation for examinations, it is essential that teachers and students should have a knowledge of the vocabulary that is most common in those particular works. The College Entrance Examination Board has prepared a Word List which indicates the vocabulary that students are expected to have at the end of two years, three years and four years of study.

The College Board Word List [32] consists of nearly 1800 words, of which candidates who have studied Latin for only two years are expected to know about 900, and the others are divided equally between the two last years of the Latin course. In accordance with the recommendation of the commission no English equivalents are given, and many Latin words are omitted which would be included if frequency of occurrence had been the only consideration. These are words whose meaning will be read from their formation or surely from English filiates. Many Latin filiates, both derivatives and compounds, however, are given, for the reason that their form or meaning would cause trouble. In every case the whole group of related words has been subjected to close scrutiny. The list does not contain all the words that candidates should know and it is not offered as something to be learned in complete satisfaction of the requirement of a vocabulary.

The choice of words is based upon the examination of such a large amount of Latin literature that the use of the list is not likely to restrict the reading of the schools to a large extent. The examination covered Caesar's *Gallic* and *Civil Wars*, Nepos, ten speeches of Cicero, his *De Senectute* and *De Amicitia*, Sallust's *Catiline* and his *Jugurthine Wars*, Virgil's *Aeneid*, *Bucolics*, and *Georgics*, and six books of the *Metamorphoses* of Ovid. The

[32] The Word List is based upon the studies of Mr. Stephen A. Hurlbut of St. Albans, Washington, D. C., who has been engaged for many years in an examination of the vocabulary of Latin authors, with reference to the usefulness of the words in teaching. Mr. Hurlbut started with the statistics of Professor Gonzalez Lodge, of Teachers' College, Columbia University, but has carried his investigation much farther. The College Board Word List has largely been drawn from his collection of material, and has been prepared under his direction by a committee appointed by the Board for that purpose.

method of choice gave preference to those words that are most useful both in the reading of the specified stage and in that to be done later. For instance a word finds its place in the list for the first two years through a value which is obtained by adding to the figure representing its frequency in the traditional reading of that stage, and the frequency of its derivatives and compounds, figures of diminishing effect, representing its frequency in the other suitable reading and in the reading of subsequent years. A few words were added because of their importance in the teaching of inflections and syntax, or in view of their association with other words in the list.

The words in the College Board Word List were followed as closely as possible in constructing the Language Elements Tests. It was, however, impossible to locate passages from Latin authors for Comprehension in which all words corresponded with those in the Word List for each particular year.

4. New York State Word List

A word list for each semester of each year of Latin was published in the New York State Syllabus of Ancient Languages in 1928. The Latin words are presented with their English meanings. The Word List adopted by the Pennsylvania State Syllabus is identical with the College Board List. Both the New York and the Pennsylvania Word Lists were consulted merely to check the words selected from the College Board List. In practically all cases the words were found to be the same.

5. Grinstead Latin-English Derivative Lexicon[33]

The unpublished Lexicon is based on the word count of the American Classical League which was an item in the Classical Investigation. Words of Latin or partly Latin origin occurring in the English word count were selected as material for the compilation of the Lexicon. The relative importance of Latin words likely to be encountered by secondary students was determined by giving to each Latin word a primary rating based on the

[33] Grinstead, W. J., "The Relative Importance of Latin Words for English Etymology". Paper presented before Section Q of the American Association for Advancement of Science, Dec. 28, 1926.

number of English filiates, their aggregate frequency, and the aggregate of their source credits, indicating their distribution through different types of material. The composite weight of each Latin word was determined by adding to its primary weight that of each of its Latin filiates, and the words were then arranged in the order of their composite weights. On the basis of this distribution the words were divided into deciles. The number of Latin words included is estimated at 5400. The Lexicon, when published, will establish a definite objective in the teaching of Latin for the sake of English. It will give the Latin teacher a list of Latin and English derivatives of any Latin word. It will furnish examples and types of word formation. Authors of Latin texts may use it in choosing vocabulary for their reading material. The Lexicon will add another criterion for the compilation of a source list for use in the construction of tests of vocabulary. The number of Latin words of each decile was found for the Vocabulary Test thus showing the value each word has in connection with English. (See Chapter IV, p. 89.)

6. Text Books

The text books[34], ten of which have been analyzed in the study of this problem, are those which have been written since the Classical Investigation has been completed. (See Table II.) The remaining eleven were not analyzed for the reasons stated below. *Junior Latin Lessons*, by D'Ooge and Roehm and *Our Roman Legacy*, by Otis were not considered because they are typically texts for an exploratory course in Junior High School. *The Living Language* by Carr and Hadzsits was still in preparation when this study was made. *Primus Annus* by Paine and Mainwaring is a direct method book. *Beginnings of Rome* by Haulenbeek, and Sheffield's *The Student's First Latin Book* do not seem to be extensively used. The *First Latin Book* by Ford, Francois' *First Latin*, *First Year Latin*, by Foster and Arms and Penick and Proctor's *Latin—First Year* are very similar in content and arrangement to Place's *First Year Latin*, which has been analyzed. *Smith's Latin Lessons* by Smith and Thompson, al-

[34] See Bibliography for text books analyzed.

though revised in 1928, belongs rather among the texts published prior to the Classical Investigation.

Before the Classical Investigation was made, first year Latin text books were characterized by an almost uniform arrangement. In the first few lessons the pupil was presented with the paradigms of the first two declensions, and then tenses of the first conjugation verbs. Narratives were not found in these texts since, according to the accepted theory of that time, complete mastery of forms and principles of syntax was considered necessary in order to be able to translate. Each lesson or two, therefore, presented a new formal rule of grammar which the pupil was required to memorize verbatim. His written exercises consisted of translating English sentences into Latin which illustrated the rule just learned. The translation from Latin into English consisted of a few isolated sentences of thought in each lesson far removed from the experience or interest of the pupil. A complete narrative was rarely seen until Caesar's Gallic War was attempted. A few books contained simplified connected Latin but there was little time or suggestion for its use.

Text book writers, accepting the recommendations of the Committee of the Classical Investigation, have been producing first year Latin text books which claim to be creating a renewed interest in the study of Latin. The trend seems to be country-wide, for there are few text books advertised today which do not in bold type attempt to sell themselves by "following the recommendations of the Classical Investigation."

Texts published since the Classical Investigation group themselves into traditional and functional text books. The few books of the traditional group adhere largely to the characteristics of the old type text described before. The "functional" texts, on the other hand, begin immediately with a connected paragraph of simple Latin, making little attempt at teaching vocabulary, forms or syntax until the pupil has had repeated experience with these contributory objectives in the reading. Case forms as well as tenses are introduced gradually. Connected narratives are produced with the introduction of the perfect tense. In fact, although each author exercises his own individuality in arrangement and reading matter, almost all of the text books published

since 1924 follow the recommendations of the Classical Investigation with varying degrees of closeness, as shown in Table II.

TABLE II

ANALYSIS OF THE CONTENT AND ARRANGEMENT OF TEN FIRST-YEAR LATIN TEXT BOOKS SHOWING HOW EACH ONE MEETS THE RECOMMENDATIONS OF THE CLASSICAL INVESTIGATION

	A	B	C	D	E	F	G	H	I	J	K
40 pages of continuous Latin	x	x	x	x	x	x	x	x	x	x	x
500 vocabulary words for mastery	x	x	x	x	x	x	x	x	x	x	x
Syntax:											
Agreement,											
Verb with subject	x	x	x	x	x	x	x	x	x	x	x
Adjective with noun	x	x	x	x	x	x	x	x	x	x	x
Appositive with noun	x	x	x	x	x	x	x	x	x	x	x
Predicate noun	x	x	x	x	x	x	x	x	x	x	x
Pronoun with antecedent	x	x	x	x	x	x	x	x	x	x	x
Case Uses:											
Nominative as subject	x	x	x	x	x	x	x	x	x	x	x
Genitive of possession	x	x	x	x	x	x	x	x	x	x	x
Genitive of description	x	x	...	...	x	x	...	x	x	x	...
Dative as indirect object	x	x	x	x	x	x	x	x	x	x	x
Dative with adjective	x	x	x	...	x	...	x	x	x	x	...
Dative of reference	x	...	...	...	...	...	...	x	x	x	...
Dative with special verbs	...	x	...	...	x	...	...	x	x	x	...
Accusative with ad or in	x	x	x	x	x	x	x	x	x	x	x
Accusative as subject of infinitive	x	x	x	x	x	x	x	x	x	x	x
Accusative of extent	x	x	x	x	x	x	x	x	x	x	x
Vocative	x	x	x	x	x	x	x	x	x	x	x
Ablative:											
means	x	x	x	x	x	x	x	x	x	x	x
separation	x	x	x	x	x	x	x	x	x	x	x
place whence	x	x	x	x	x	x	x	x	x	x	x
agent	x	x	x	x	x	x	x	x	x	x	x
manner	x	x	x	x	x	x	x	x	x	x	x
time	x	x	x	x	x	x	x	x	x	x	x
cause	x	x	x	x	x	x	x	x	x	x	x
accompaniment	x	x	x	x	x	x	x	x	x	x	x
place where	x	x	x	x	x	x	x	x	x	x	x
de	x	x	x	x	x	x	x	x	x	x	x
absolute	...	x	...	x	x	x	...	x	...	x	...
respect	...	x	...	...	...	...	x	x	x	x	...
Verb Uses:											
Present infinitive indirect discourse	x	x	x	x	x	x	x	x	x	x	x
Complementary infinitive	x	x	x	x	x	x	x	x	x	x	...
Infinitive as object	x	x	x	x	x	x	x	x	x	x	...
Forms:											
Nouns of first three declensions	x	x	x	x	x	x	x	x	x	x	x

NOTE: The table should be read—Book A contains 40 pages of continuous Latin reading; 500 Latin words for mastery, etc. Absence of a check mark indicates that the book does not contain that item. Column K shows the content recommended by the Classical Investigation for the first year of Latin.

TABLE II (*Continued*)

ANALYSIS OF THE CONTENT AND ARRANGEMENT OF TEN FIRST-YEAR LATIN TEXT BOOKS SHOWING HOW EACH ONE MEETS THE RECOMMENDATIONS OF THE CLASSICAL INVESTIGATION

	A	B	C	D	E	F	G	H	I	J	K
Nouns of fourth and fifth declensions	x	x	x	x	x	x	x	x	x	x	...
Adjectives of first, second, third declensions	x	x	x	x	x	x	x	x	x	x	x
Comparison of regular adjectives and adverbs	x	x	x	x	x	x	x	x	x	x	x
Comparison of irregular adjectives and adverbs	x	x	x	x	x	x	x	x	x	x	...
Declension of pronouns	x	x	x	x	x	x	x	x	x	x	x
Indicative active and passive of all conjugations except future perfect	...	...	...	...	...	...	...	...	...	...	x
Indicative active and passive of all conjugations, all tenses	x	x	x	x	x	x	x	x	x	x	...
Imperative of all conjugations active	x	x	x	x	x	x	x	x	x	x	x
passive	...	...	...	...	...	x	x	x	x	x	x
Present infinitive active and passive	x	x	x	x	x	x	x	x	x	x	x
Perfect passive participle	x	x	x	x	x	x	x	x	x	x	x
Present active participle	x	x	...	x	x	...	x	x	x	x	...
Perfect infinitive active and passive	x	x	...	x	x	x	...	x	x	x	...
Subjunctive active and passive	...	...	...	...	...	...	...	x	...	x	..
Arrangement of Text:											
Narrative first in lesson	x	x	x	x	...	x	...	...	x	...	x
Vocabulary at end of lesson	x	...	x	x	...	x	...	x	x	...	x
Cases introduced gradually	x	x	x	x	x	x	x	x	x	x	x
Rules presented after having been met in context	x	...	x	x	...	x	...	...	x	...	x
Paradigms in Appendix	x	x	x	x	x	x	x	x	x	x	x
Second Year Book in series	x	x	...	x	x	...	x	x	x	x	...
Third Year Book	x	x	x	...	x	...	x	...	...	...	...
Fourth Year Book	x	...	...	x	...	...	...	...	...	...	..

The following is a key to the First Year Latin Text Books[35] listed in Table II:

A. Gray and Jenkins: "Latin For Today".
B. Ullman and Henry: "Elementary Latin" (revised edition).
C. Thursby and Kyne: "Living Latin".

[35] See Bibliography for complete list of Latin Text books.

D. Magoffin and Henry: "Latin—First Year".
E. Scott and Horn: "First Latin Lessons" (revised)
F. Grinstead and McDuffee: "A First Book in Latin" (preliminary edition).
G. Parsons and Little: "First Latin Lessons".
H. Whittemore: "Elementa Prima" (revised).
I. Pearson, Lawrence and Raynor: "Latin I".
J. Place: "First Year Latin".
K. Content of First Year Latin as recommended by the Classical Investigation.

The newer books of first year Latin are now being followed by a second year book in which the narrative is placed first in the lesson followed by the language elements. A few series recently published are now offering a third year and even a fourth year book. Although the contrast is not as marked between the new third and fourth year books, and those used previous to 1924 because of the almost uniform requirement in classical authors, the arrangement of the books stresses the ultimate objectives of Latin far more than the old type test. The new second year books are characterized by the offering of stories of Roman life and mythology in the first half of the book and selections from Caesar's Gallic War or the Civil War in the latter half of the book. Syntax and forms are usually presented in accordance with the recommendations of the Classical Investigation, after they have been met in the reading.

Although the analysis of the text books published since 1924 did not serve the investigator as a main source of material, it served as an indication of present-day trends in content and method, and showed the extent to which the recommendations of the Classical Investigation may be accepted as the principal source of data. An analysis of text books presents a consensus of expert opinion in the field of Latin. It is also true that teachers are inclined to accept the text book content in the organization of material for classroom use. Although the use of a new type Latin text does not necessarily mean the adoption on the part of the teacher of the "functional" method, the extensive use of these books is indicative of current trend in content and method to a large extent. The fact that the content of present-day Latin text books and the recommendations of the Classical Investigation are parallel serves to strengthen the use of these two criteria in the selection of test items.

Sufficient data concerning the comparative sales of text books following the Classical Investigation and those that do not were not available. Sales managers, however, of four large publishing houses stated that the sale of first year Latin books following the recommendations of the Classical Investigation far surpassed that of other Latin books. In two cases it was even estimated that 75-90 per cent of the Latin books now sold in the United States were texts closely following the Classical Investigation.

7. State and City Courses of Study

A few important courses of study[36] in Latin, revised since the completion of the Classical Investigation, were examined. This analysis was made to discover the amount and type of reading matter required in each year of Latin, as well as the practice of the state or school district in the study of vocabulary, form and syntax. When the examination revealed that twenty courses of study revised since 1923 indicated a distinct tendency to follow the recommendations of the Classical Investigation, the investigator assumed that it was superfluous to carry the analysis further. The fact that the objectives and recommendations of this committee have been embodied almost literally in many of these courses of study serves again to emphasize the validity of the Classical Investigation report in this study as the main source of data.

Summary

1. The Report of the Classical Investigation, Part I, is a detailed study of the content and methods of the teaching of Latin as these conditions existed in 1921–1923. Recommendations were made by an expert committee regarding methods and content. An analysis was made of this report in order to determine the common practice in methods of teaching Latin, the content of subject matter covered in each of the four years, and the contributory objectives considered necessary for the realization of the immediate objective, the power to read and understand Latin.

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[36] See Bibliography for courses of study analyzed.

2. Specific recommendations made by the Committee of the Classical Investigation in regard to reading were used as a basis in selecting passages for the Comprehension tests.

3. The contributory objectives—the mastery of vocabulary, forms, and syntax—are considered essential in the reading of Latin. The writer found specific recommendations for forms and syntax listed in the report of the Classical Investigation and used them as a basis for the selection of test items.

4. College Entrance Examination Board requirements place the reading of Latin as a primary objective and largely follow the recommendations of the Classical Investigation.

5. The College Entrance Examination Board Word List was used by the writer as a standard in the selection of words used in all test items except the comprehension passages in which a strict limitation to the Word List was impossible.

6. The Word Lists published by the State of New York and the State of Pennsylvania as well as the Grinstead Latin-English Derivative Lexicon were used to verify the words selected on the above basis.

7. First Year Latin text books published since 1924 were analyzed to determine the general trend in content and methods of teaching. It was found that almost without exception these text books followed the recommendations of the Classical Investigation.

8. A number of state and city courses of study revised since 1924 were examined to discover present-day trends in the teaching of Latin. Of the few courses of study examined, all followed the recommendations of the Classical Investigation in aims, content and methods.

III

The Preliminary Tests

1. Construction of the Tests

Progress in educational measurements is marked at present by an increased emphasis on new type examinations, which includes standardized tests as well as informal tests. The rise of this objective type of examination has brought about the decline in popularity of the essay-type examination.[1] Distinction is made between these two prevailing types of examinations since the new-type test aims to measure achievement in an objective way, while the subjective element is characteristic of the essay type examination.

New type examinations have been classified in this way by Ruch:[2]

I. Recall Types
   1. Simple recall questions
   2. Completion exercises

II. Recognition Types
   1. Multiple response
   2. True-false
   3. Best answer
   4. Matching exercises
   5. Identification

All authorities agree that no one of these types is entirely free from disadvantages.[3, 4] In constructing the preliminary tests, three types of questions were used—simple recall, multiple

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[1] Ruch, G. M. and Stoddard, G. D., *Tests and Measurements in High School Instruction*, New York, World Book Co., 1927, pp. 266–270.

[2] Ruch, G. M., *The Improvement of the Written Examination*, Chicago, Scott, Foresman & Co., 1924, pp. 188–189.

[3] Odell, C. W., *Traditional Examinations and New Type Tests*, New York, The Century Co., 1928, pp. 237–421.

[4] McCall, W. A., *How to Measure in Education*, New York, MacMillan Co., 1922

response and matching exercises. Simple recall questions are perhaps better adapted to thought questions and are less concerned with the elements of guessing than other types of questions. The multiple choice type questions are more objective in scoring and may be scored quickly and accurately. In this type of question a pupil is asked to use his judgment. Guessing can be reduced to a minimum by increasing the number of offered responses to five or more. Few arguments have been advanced against the use of matching tests. It has been said that guessing may play too great a part in the results, but its effect can be rendered negligible by including a number of items in one list which do not match any of those given in the other.

The selection and use of the different varieties of objective tests was not left to chance. There are several studies which present data on the comparative validity of the different types of objective tests. Although such studies as those of Kinder,[5] May,[6] and Wood[7] have yielded somewhat different results, the first indicating that true-false tests have higher validity than several other types, the second favoring multiple answer tests, and the third completion tests, the differences are in general too small to be significant. A few studies have included other types but the results indicate that the single answer, analogies and matching types also possess about the same validity as the true-false, multiple answer, and completion.

The reported data on the reliability of various types of tests are more extensive but tend to much the same conclusion. Ruch,[8] who has made extensive studies of the matter, reports data which indicate that the reliability of single-answer and multiple-answer tests is somewhat greater than that of true-false ones. Hammond,[9] who studied the same three types, found little difference

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[5] Kinder, J. S., "Supplementing Our Examinations", *Education*, 45, pp. 557–566, May, 1925.

[6] May, M. A., "Measuring Achievement in Elementary Psychology and Other College Subjects", *School and Society*, 17, pp. 472–476, 556–560, April 28 and May 19, 1923.

[7] Wood, E. P., "Improving the Validity of Collegiate Achievement Tests", *Journal of Educational Psychology*, 18, pp. 18–25, January, 1927.

[8] Ruch, G. M., *The Improvement of the Written Examination*, Chicago, Scott, Forseman & Co., 1924, pp. 111–113.

[9] Hammond, E. L., "A Study of the Reliability of an Objective Examination in Ninth-Grade English", *School Review*, 35, pp. 45–51, January, 1927.

between the three, the single-answer type, however, ranking slightly lower than the true-false, and both a little below the multiple answers. Toops[10] found that for the same number of items the reliability of the single-answer type was highest, that of the multiple answer second, and of the true-false lowest, but that for the same amount of working time on each there was little difference. Hopkins[11] gives figures which indicate that the multiple-answer and completion types are slightly more reliable than the true-false. Odell reports that matching tests have about the same reliability as multiple-answer ones. On the whole the evidence indicates that there is practically no choice as far as reliability is concerned among the single-answer, the multiple-answer, the completion and matching types.

Authorities in the field of tests and measurements agree upon certain specific steps which must be followed in the selection of test items. Ruch[12] suggests the following steps:

"1. Decide upon the exact scope of the proposed test. Make a list of the most important topics falling within the limits selected.
"2. Take the topics selected and think out very carefully the most significant facts falling under each topic.
"3. Arrange the questions under each topic, as far as possible, in the order of difficulty.
"4. Devise a large number of questions in order that only the best will be selected for the final form.
"5. Turn the questions into the type that is most appropriate for the material at hand.
"6. Decide the length of the test and the time that will be required for administering it.
"7. From the items under each topic, select on the basis of importance and difficulty those that may be used in the time allotted for the test.
"8. Give the preliminary list of items to a large number of pupils and on the basis of the results select the items for the final form."

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[10] Toops, H. A., "Trade Tests in Education", *Teachers College, Columbia University Contributions to Education No. 115*, New York, Teachers College, 1921, pp. 39–62.
[11] Hopkins, L. T., *The Construction and Use of Objective Examinations*, Boulder, College of Education, University of Colorado, 1926, p. 119.
[12] *Op. cit.*, p. 113.

The first step in the construction of the Tests of Functional Latin was the determination of the exact scope of the test based on the data described in Chapter II, namely the Report of the Classical Investigation, Part I, supplemented by College Entrance Examination Board requirements, the College Entrance Examination Board Word list, New York State Word list, text books, and state and city courses of study. The tests were designed to measure the attainment of the immediate objective set up by the Classical Investigation and involved those skills and abilities in the elements of language necessary for the attainment of this objective, the ability to read and understand Latin. The scope of the test was, therefore, confined to tests of comprehension, vocabulary, forms and speech feeling. It was decided on the basis of the studies previously cited,[13] which showed no appreciable difference between various types of tests, that the single answer, multiple response and matching exercises would be used.

In the construction of the Comprehension tests five Latin passages were selected for each year of Latin, since it was desirable to limit the test to a 50-minute period. Questions of the simple recall type, eleven to twenty-one in number, were based on each passage. The test for first year pupils consisted of original "made" Latin, graded in difficulty. The passages for second year pupils were selected from Sallust's *Jugurthine War*, Tacitus' *Agricola*, and Caesar's *Civil War*. The third year test consisted of selections from Pliny's *Letters*, Tacitus' *Germania*, and Cicero's *Pro Roscio Amerino*. Passages from Vergil's *Eclogues* and *Georgics* formed the fourth year test. All these authors are recommended by the Classical Investigation Committee for the respective years. The only other basis of selection was vocabulary. The selected passages contained a large percentage of words belonging in assumed difficulty to the particular year for which they were chosen according to the word list of the College Entrance Examination Board.

The total number of comprehension test items of the simple recall type was distributed as follows:

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[13] Chapter III, p. 57.

First year	79 items
Second year	77 items
Third year	70 items
Fourth year	88 items
Total	314 items

In constructing the Vocabulary Test, 113 items of the multiple response type were used. The Latin words used in each item were selected from the words published by the College Entrance Examination Board. An approximately equal number of words was selected for all four years of Latin to form the composite test of 113 items. These words were selected from nouns, adjectives, verbs, and miscellaneous types of words such as conjunctions, adverbs and prepositions.

The following distribution of vocabulary test items was made according to each year of Latin:

First year	30 items
Second year	27 items
Third year	28 items
Fourth year	28 items
Total	113 items

The Vocabulary Test was constructed to follow the recommendations of the committee of the Classical Investigation which suggests that vocabulary always be taught in context, that is, in association with other words comprising a thought group or sentence and not in isolated form by merely identifying a Latin word by its English meaning. Therefore the 113 items consisted of Latin sentences of a scaled degree of difficulty, so far as the assumed difficulty of vocabulary and principles of forms and syntax can determine such difficulty. Each Latin sentence contained a blank space, indicating that a word was missing. Underneath each sentence five Latin choices of equal difficulty and in correct Latin form were given. The pupil was asked to select the one word which he thought best completed the meaning of the sentence.

The first thirty items, constructed for an assumed first year difficulty, were composed of first year words entirely, selected from the College Board Word List. The next twenty-seven items, intended for second year difficulty, were constructed by using words of first or second year difficulty and offering choices for completion of second year words. The following twenty-eight items for third year difficulty were made up chiefly of second or third year words with third year words offered for choices. The last twenty-eight items, of fourth year difficulty were composed of words from the third or fourth year list, using fourth year words for choices. Exceptions were necessary frequently in the use of certain first year words (such as *et* or *sed*) which are necessary in sentences of any difficulty.

The entire test of 113 items was offered to pupils of all years of Latin. Taking into consideration the five multiple responses connected with each item, 565 Latin words were offered to the pupils in this test. Because of the nature of the test it was necessary for a pupil to understand the thought of the entire sentence in order to select the correct multiple response. The number of words offered to a pupil for judgment, therefore, was considerably increased. The entire Vocabulary Test involved the following number of Latin words:

First year	240 words
Second year	307 words
Third year	299 words
Fourth year	305 words
Total	1151 words

The test on forms was constructed in accordance with the outline given in the Report of the Classical Investigation, which recommends the forms used in each year and the method of presenting them in context. The test was designed to include the use of case forms only.

It was impossible to measure verb forms in the same test with case forms because of the different type of question which would be necessary. Verb forms and their uses are included in the

Speech Feeling Test. Therefore, it was not considered necessary to construct an additional test for this purpose, especially as this would entail a prolonging of the testing period.

The principles of syntax used in the test were arranged in difficulty according to the four years of Latin. Because the mastery of case forms is confined entirely to the work of the first two or three semesters, the entire test would have involved first or second year words. There were but twenty case uses included in the test. It was possible, therefore, in the 75 items of the test to include three or four items covering each case use. Approximately one-half of the items were constructed by using first and second year words, the other half by using also words of greater difficulty.

The test, which was made up of matching exercises, consisted of 75 sentences, each containing a functional use of a case form. Instead of asking a pupil to identify an underlined word in a sentence with a certain technical rule of grammar, he was asked to identify the contribution of each case form to the thought of the sentence. For example, the question, "Where or in what place did a certain thing happen?" might be answered by "*in silvis*" found underlined in one of the items. In no part of the test was a pupil responsible for the identification of a case form by name or for the citation of a formal grammatical rule. The case forms were always presented in context, never in isolation. From the principles of syntax given in the Report of the Classical Investigation, twenty case uses were found and presented in question form. Each underlined case form located in a sentence answered one question about the thought of the sentence. One question might be answered by case forms in three or four sentences. Guessing was reduced to a minimum by having many more items than questions, and by the insertion of several items of the "No question" type in which an underlined word or phrase answered none of the questions asked.[14]

The principles of syntax outlined for each year in the Report of the Classical Investigation were used in the construction of the Speech Feeling Test. (Chapter II, page 39.) There are about

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[14] See Chapter IV, p. 101 for copies of test.

seventy principles of syntax listed according to semesters in the recommendations of the Classical Investigation. A sentence was constructed for each principle. Words used in sentences involving first year principles of syntax were selected from the first year list of the College Entrance Examination Board list. Words used to form the sentences illustrating second year principles were selected from the first or second list. Words of second or third year difficulty were used in the sentences involving third year principles of syntax. Third and fourth year words were used in the sentences illustrating fourth year principles of syntax.

It is evident from the outline of the principles of syntax reproduced in Chapter II that approximately 75 per cent of these principles are listed under first and second year work. Therefore, the great part of the test should be suited to the ability of first and second year pupils. A few additional uses of the subjunctive, not given in detail in the outline, but mentioned specifically in the new Second and Third Year text books examined, were included in the test.

The Speech Feeling Test consisted of seventy sentences constructed on the bases explained before. Each sentence contained an error. In a simple recall response the pupil was asked to write the correct form of the word in the sentence which he considered wrong.

The complete battery of preliminary tests, drawn up in accordance with the principles previously stated included:

	Part of Test	*Type of Response*	*No. of Items*
Part I.	Comprehension Test	Simple Recall	314
Part II.	Vocabulary Test	Multiple Response	113
Part III.	Forms Test	Matching Exercise	75
Part IV.	Speech Feeling Test	Simple Recall	70

2. Preliminary Testing

The preliminary tests were given to more than 500 pupils in thirteen secondary schools[15], eleven of which were in Pennsyl-

[15] Cities and towns in which schools giving the tests are located will be found in Appendix 2, p. 183.

vania, one in Delaware, and one in New Jersey. The pupils tested were in the first, second, third, or fourth year of Latin. Of the tests completed and returned, results were analyzed from the following distribution of papers:

PART	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	TOTAL
I Comprehension...	550	560	475	455	2040
II Vocabulary.....	138	157	152	130	577
III Forms.....	147	165	99	105	516
IV Speech Feeling...	151	145	153	110	559
Total.....	986	1027	879	800	3692

With the exception of the Comprehension Tests, all tests in the battery were taken by the same pupils wherever practicable. Therefore, the total for each year represents the number of test papers examined and not the number of pupils, since in many cases a pupil was given all four tests. It was impossible for a few schools to give all of the tests in the battery, because of administrative difficulties. Consequently a few schools received only the tests of vocabulary or forms. This condition was necessary in the Comprehension Tests since each year's test was mimeographed separately. First year pupils were given only the first year Comprehension Test. In the other tests in the battery, test items were so arranged for the try-out that first year as well as fourth year pupils were instructed to answer as many questions as possible within the time allowed.

All tests were given during the third week of November, 1930. Instructions were mailed to the teachers of Latin who were cooperating so that testing conditions might be as uniform as possible.[16] The time allowed for the Comprehension and Language Elements Tests was sixty minutes each. Reports from a few teachers who gave the tests indicated a shortage of time on the

[16] Instructions mailed with the Preliminary Test are reproduced in Appendix I, p. 183.

Vocabulary, Forms, and Speech Feeling Tests. This was due to the fact that the pupils found these tests "very different in type from the usual standardized test."

In scoring the papers, all test items were considered of equal value. The tests were scored either by the writer herself or under her personal direction. In this way the personal element, often found when a teacher scores his own pupils, was eliminated. Only correct items were checked, and each was given a value of one. The total number of correct responses on each pupil's paper was counted to obtain the pupil's score on the test.

Measurers of mental traits have for years been searching for an appropriate reference point or points. The tendency has been to search for some absolute zero point for the trait being measured. This has resulted in a different zero point for each scale made. Sometimes it is a zero point guessed at by the author; again it is the median judgment of judges; for other scales it is 3 S. D. below the mean of the group for whom the test is devised. Hence McCall[17] suggests that this reference point be not a zero point but instead the mean performance of those tested. He further proposes an arbitrary zero point of -5 (S.D.) and a single common unit of measurement, adopted for all mental scales, preferably $\frac{1}{10}$ (S.D.), which is the division into which he has broken the base line of a normal probability curve. On this scale any pupil who makes a score of 50 has an ability equal to the mean. There are four reasons for this: (1) This procedure eliminates plus and minus signs. (2) It gives a convenient range of points between 1 and 100. (3) It carries the scale as far up and down as necessary. (4) It gives a mathematical zero which is close to the supposed absolute zero for typical mental functions.

The same scale may be applied to the measurement of the difficulty of test items, instead of the measurement of pupil performance. The per cent of correct answers to an item is a measure of its difficulty but gives an inverse scale, where a direct or ascending scale is desired. In traveling along the base line of a normal probability curve, the per cent of the area of the curve passed or to be passed bears a constant ratio to the distance traveled as measured by the Standard Deviation of the curve

[17] McCall, W. A., *How to Measure in Education*, New York, MacMillan Co., 1922, pp. 271–292.

TABLE III

NUMBER AND PER CENT OF PUPILS IN EACH YEAR ANSWERING EACH ITEM OF THE COMPREHENSION TEST CORRECTLY WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
1.....	474	84	40	314	56	48	448	94	34	433	95	33
2.....	425	75	43	545	97	29	436	92	35	297	65	46
3.....	462	82	40	325	58	48	431	91	36	277	61	47
4.....	509	90	37	420	75	43	454	96	31	290	64	46
5.....	499	89	37	288	51	50	433	91	36	342	75	43
6.....	513	91	36	417	74	43	408	85	39	394	82	40
7.....	431	77	42	244	41	51	379	80	41	327	71	44
8.....	497	88	38	410	73	44	419	88	38	282	62	47
9.....	481	85	39	415	74	43	366	77	42	268	59	47
10.....	437	78	42	516	92	35	358	75	43	312	68	45
11.....	475	84	40	330	59	47	343	72	44	301	66	46
12.....	487	86	39	...	..	..	411	86	39	270	59	47
13.....	434	77	42	...	..	..	...	..	..	283	62	47
14.....	419	74	43	...	..	..	...	..	..	293	64	46
15.....	...	..	..	...	..	..	...	..	..	422	92	35
16.....	...	..	..	...	..	..	...	..	..	290	64	46
17.....	...	..	..	...	..	..	...	..	..	285	63	46
II.												
1.....	412	73	44	313	56	48	317	67	46	437	96	31
2.....	291	51	50	298	54	48	272	57	48	284	63	46
3.....	336	60	47	414	74	43	462	97	29	280	63	46
4.....	319	56	48	372	66	46	316	67	45	287	64	46
5.....	264	47	51	358	64	46	395	83	40	290	64	46
6.....	278	49	50	365	47	46	403	85	39	328	72	44
7.....	341	60	47	462	83	40	457	96	31	273	60	47
8.....	328	58	48	388	69	45	434	91	36	301	66	46
9.....	298	52	49	285	51	50	372	78	42	296	65	46
10.....	366	60	47	215	38	53	434	91	36	287	64	46
11.....	255	45	51	217	39	53	394	82	40	274	60	47
12.....	320	57	48	387	69	45	330	68	45	260	57	48
13.....	224	40	52	...	..	..	442	92	36	296	65	46
14.....	299	53	49	...	..	..	...	..	..	255	56	48
15.....	188	33	54	...	..	..	...	..	..	291	64	46
16.....	236	42	52	...	..	..	...	..	..	276	61	47
17.....	353	63	46	...	..	..	...	..	..	288	64	46
18.....	383	68	45	...	..	..	...	..	..	291	64	46
19.....	...	..	..	...	..	..	...	..	..	280	63	46
III.												
1.....	290	52	49	292	52	49	394	82	40	283	63	46
2.....	394	70	44	546	62	47	286	60	47	308	67	46
3.....	305	54	49	340	61	47	266	56	48	303	66	46
4.....	391	69	45	347	62	47	368	78	42	301	66	46
5.....	378	67	45	304	54	49	304	64	46	292	64	46
6.....	405	72	44	349	62	47	313	66	46	274	61	47
7.....	336	60	47	332	59	47	275	58	48	260	57	48
8.....	258	46	57	337	60	47	319	67	45	296	65	46
9.....	373	66	46	260	46	51	279	59	47	284	63	46
10.....	305	54	49	221	39	53	392	83	40	282	63	46

TABLE III (*Continued*)

NUMBER AND PER CENT OF PUPILS IN EACH YEAR ANSWERING EACH ITEM OF THE COMPREHENSION TEST CORRECTLY WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
11	304	54	49	206	37	53	329	69	45	294	65	46
12	361	64	46	206	37	53	292	61	47	287	64	46
13	387	69	45	307	54	49	348	73	44	271	59	47
14	282	50	50	242	43	52	338	71	44	262	57	48
15	358	63	46	275	49	50	328	60	45	270	60	47
16	310	55	49	337	60	47	...	..	..	...	..	..
17	...	..	..	304	54	49	...	..	..	...	..	..
IV												
1	170	30	55	490	88	38	296	62	47	271	59	47
2	127	23	57	320	57	48	347	74	43	277	61	47
3	106	19	58	282	50	50	330	70	44	281	63	46
4	110	20	58	247	44	51	361	76	43	274	61	47
5	113	20	58	213	38	53	365	77	42	271	59	47
6	129	23	57	245	44	51	353	74	43	267	59	47
7	117	21	58	239	43	52	393	83	40	267	59	47
8	111	20	58	343	61	47	281	59	47	286	63	46
9	110	20	58	319	57	48	251	53	48	300	66	46
10	115	20	58	390	69	45	289	61	47	289	64	46
11	110	20	58	260	46	51	321	58	45	268	59	47
12	147	26	56	252	45	51	335	71	44	262	57	48
13	101	18	59	255	46	51	281	59	47	265	58	48
14	111	20	58	292	52	49	272	57	48	273	60	47
15	138	25	56	260	46	51	272	57	48	270	59	47
16	...	..	..	223	40	52	321	67	45	279	61	47
17	...	..	..	284	51	50	299	63	46	274	61	47
18	...	..	..	211	38	53	303	64	46	...	..	..
19	...	..	..	221	39	53	...	..	..	...	..	..
20	...	..	..	211	38	53	...	..	..	...	..	..
21	...	..	..	209	37	53	...	..	..	...	..	..
V												
1	138	25	56	214	38	53	288	61	47	270	59	47
2	118	21	58	273	49	50	288	61	47	280	63	46
3	135	24	57	236	42	52	259	55	48	267	59	47
4	119	21	58	272	49	50	253	53	49	271	59	47
5	112	20	58	287	51	50	255	54	49	252	55	48
6	129	23	57	204	36	53	270	57	48	269	59	47
7	113	20	58	208	37	53	248	52	49	266	59	47
8	115	20	58	267	48	50	237	50	50	251	55	48
9	123	22	57	214	38	53	221	47	51	252	55	48
10	113	20	58	228	41	52	229	48	50	240	52	49
11	120	21	58	203	36	53	216	45	51	247	54	49
12	122	22	57	204	36	53	247	52	49	243	53	49
13	118	21	58	205	37	53	...	..	..	243	53	49
14	124	22	57	265	47	51	...	..	..	243	53	49
15	116	21	58	223	40	52	...	..	..	248	54	49
16	121	22	57	241	43	52	...	..	..	244	53	49
17	115	21	58	...	..	..	...	..	..	247	54	49
18	115	21	58	...	..	..	...	..	..	251	55	48
19	122	22	57	...	..	..	...	..	..	247	54	49
20	...	..	..	...	..	..	...	..	..	248	54	49

TABLE IV

NUMBER AND PER CENT OF PUPILS ANSWERING EACH ITEM OF THE VOCABULARY TEST CORRECTLY, WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
1.....	129	93	34	137	87	38	140	92	35	124	95	33
2.....	121	88	38	149	95	33	149	98	28	128	98	27
3.....	92	67	45	120	76	43	132	86	39	121	93	34
4.....	123	89	36	148	94	34	148	97	29	124	95	33
5.....	108	78	42	145	92	36	147	91	31	126	96	31
6.....	76	55	48	143	91	36	136	89	37	116	89	37
7.....	44	32	54	87	55	48	107	70	44	123	94	34
8.....	55	40	52	98	62	47	132	86	39	126	56	31
9.....	99	72	44	147	94	34	149	98	27	81	62	47
10.....	29	21	58	48	31	55	42	27	56	113	87	38
11.....	50	36	53	92	59	47	128	84	40	883	63	46
12.....	35	25	56	109	69	45	84	55	48	102	78	42
13.....	46	33	54	60	38	53	85	55	48	85	65	46
14.....	43	31	51	55	35	54	62	32	54	114	87	38
15.....	54	39	53	62	39	53	107	70	44	118	90	37
16.....	76	55	48	116	74	43	127	83	40	125	96	31
17.....	62	45	51	114	73	44	144	95	33	117	89	37
18.....	62	45	51	86	55	48	110	72	44	87	67	45
19.....	41	29	55	72	45	51	87	57	48	122	94	34
20.....	15	10	62	94	59	47	129	84	40	122	94	34
21.....	25	18	59	76	48	50	112	78	42	120	92	35
22.....	13	65	46	66	42	52	136	89	37	110	84	40
23.....	24	17	59	66	42	52	85	55	48	125	96	31
24.....	51	38	63	110	76	43	120	78	42	112	86	39
25.....	52	38	53	69	44	51	120	70	42	113	87	38
26.....	14	10	62	73	46	51	102	67	45	116	89	37
27.....	22	16	60	77	48	50	132	86	39	120	92	35
28.....	27	20	58	72	46	51	101	66	46	96	74	43
29.....	12	9	63	74	47	51	108	71	44	75	58	48
30.....	18	13	61	24	15	60	18	11	62	113	87	38
31.....	26	19	59	50	31	55	105	69	45	86	66	46
32.....	17	12	61	34	22	57	45	29	55	108	83	40
33.....	22	16	60	64	41	52	107	70	44	95	73	44
34.....	24	17	59	54	34	54	81	53	59	112	86	39
35.....	31	22	57	122	78	42	110	72	44	75	58	48
36.....	29	21	58	30	19	58	54	35	54	117	90	37
37.....	23	17	59	86	55	48	119	78	42	100	77	42
38.....	12	9	63	55	35	54	87	57	48	106	82	40
39.....	34	25	56	58	36	53	101	79	42	115	88	38
40.....	26	19	58	65	42	52	108	71	44	63	48	50
41.....	25	18	59	50	31	55	91	59	47	101	77	42
42.....	21	15	60	100	64	46	101	66	46	125	96	31
43.....	34	25	58	97	62	47	138	90	37	89	68	45
44.....	53	38	53	60	38	53	91	59	47	96	74	43

TABLE IV (*Continued*)

NUMBER AND PER CENT OF PUPILS ANSWERING EACH ITEM OF THE VOCABULARY TEST CORRECTLY, WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
45	16	12	61	81	52	49	97	61	46	108	83	40
46	24	17	59	81	52	49	119	78	42	83	63	46
47	38	28	56	33	21	58	44	28	56	101	77	42
48	39	28	56	73	46	51	101	66	45	97	74	43
49	21	15	60	52	33	54	88	57	48	112	86	39
50	26	19	58	99	63	46	130	85	39	107	82	40
51	30	22	57	109	68	45	109	71	44	74	57	48
52	34	25	58	52	33	54	45	29	55	99	76	43
53	38	28	56	96	61	47	77	50	50	108	83	40
54	64	46	51	96	61	47	114	75	43	104	80	41
55	26	19	58	75	48	50	78	61	50	104	80	41
56	41	30	55	79	50	50	90	59	47	100	77	42
57	33	24	57	33	21	58	88	57	48	113	87	38
58	46	33	54	69	44	51	111	73	44	125	96	31
59	32	23	57	76	48	50	134	88	38	84	64	46
60	29	21	58	43	27	56	78	51	50	96	74	43
61	42	30	55	65	41	52	103	67	43	104	80	41
62	41	30	55	85	54	49	100	65	46	107	82	40
63	50	36	53	73	46	51	85	55	48	96	74	43
64	32	23	57	52	33	64	83	55	48	107	82	40
65	37	27	56	86	55	48	80	52	49	71	55	48
66	24	17	59	62	39	63	75	49	50	100	77	42
67	38	28	56	45	29	55	56	37	53	73	56	48
68	20	14	60	45	29	55	83	55	48	96	74	43
69	31	22	57	62	39	53	87	57	48	78	60	47
70	40	29	55	29	18	89	72	47	51	76	58	48
71	49	36	53	35	22	57	49	32	54	91	70	44
72	53	38	53	47	30	55	86	56	48	86	66	46
73	30	22	57	52	33	54	44	28	56	86	66	46
74	46	33	54	45	29	55	88	57	48	95	73	44
75	44	30	54	52	33	54	78	51	50	105	80	41
76	22	16	60	47	30	55	99	65	46	100	77	42
77	28	20	58	48	31	55	97	63	46	108	83	40
78	17	12	61	39	24	57	100	65	46	99	76	43
79	20	14	60	31	20	58	93	61	47	112	86	39
80	41	30	55	49	31	55	105	69	45	92	70	44
81	33	24	57	69	44	51	86	56	48	91	70	44
82	24	17	59	80	51	50	88	57	48	105	80	41
83	34	25	56	71	45	51	92	60	47	104	80	41
84	34	25	56	78	50	50	99	65	46	74	57	48
85	42	30	55	72	46	51	58	38	53	92	75	43
86	52	38	53	74	47	51	76	50	50	113	87	38
87	52	38	53	81	52	49	87	57	48	94	72	44
88	25	18	59	48	31	55	65	42	52	116	89	37
89	38	27	56	63	34	54	63	41	52	73	56	48

TABLE IV (*Continued*)

NUMBER AND PERCENT OF PUPILS ANSWERING EACH ITEM OF THE VOCABULARY TEST CORRECTLY, WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
90.....	26	19	59	63	40	52	52	34	54	86	66	46
91.....	29	21	58	38	24	57	50	22	54	65	50	50
92.....	31	22	57	36	22	57	43	28	56	106	81	41
93.....	33	23	57	65	41	52	87	57	48	106	81	41
94.....	21	15	60	59	31	55	65	42	52	78	60	47
95.....	35	25	56	79	25	56	31	20	58	73	56	48
96.....	42	30	55	55	35	54	50	32	54	89	68	45
97.....	28	20	58	63	40	52	48	31	55	107	82	40
98.....	38	12	61	69	44	51	52	34	54	105	80	41
99.....	20	14	60	55	35	54	45	36	53	98	75	43
100.....	23	17	59	61	39	53	44	28	56	99	76	43
101.....	55	39	53	47	30	55	60	39	53	85	65	46
102.....	26	19	58	47	30	55	26	17	59	93	71	44
103.....	37	27	56	28	18	59	28	18	59	111	85	39
104.....	38	28	56	48	31	55	41	26	56	74	57	48
105.....	7	5	66	19	12	61	29	12	61	90	69	45
106.....	8	6	66	42	37	56	27	25	56	105	81	41
107.....	26	19	59	21	13	61	15	9	63	91	70	44
108.....	27	20	58	34	22	57	36	23	57	90	69	45
109.....	23	17	59	40	25	56	44	28	56	109	83	40
110.....	26	19	58	34	22	57	47	30	55	110	84	40
111.....	28	20	58	30	19	58	17	11	62	89	68	45
112.....	24	17	59	34	23	57	27	17	59	79	61	47
113.....	18	13	61	38	24	57	48	31	55	114	87	38

Hence each per cent has a fixed value in terms of Standard Deviation, which can be substituted for it as a measure of difficulty.

By assuming a zero point of −5 (S.D.) all actually attainable values will be positive and will lie between 0 and 10. As difficulty increases, the per cent of correct answers diminishes; but the reverse is true of the S.D. values. Hence the latter give an ascending scale. In order to secure a fine enough scale, the unit is taken to be .1 (S.D.) instead of 1 (S.D.), thus avoiding decimals.

The total number of correct responses for each item on all papers was counted from the master tabulating chart, and the percentage of pupils who answered each test item correctly was

TABLE V

NUMBER AND PER CENT OF PUPILS ANSWERING EACH ITEM OF THE FORM TEST CORRECTLY WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
ITEM	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
1	89	61	47	124	75	43	73	73	44	93	88	38
2	48	33	54	106	63	46	74	74	43	88	83	40
3	79	54	49	112	67	45	55	55	48	85	80	41
4	31	21	58	105	63	46	71	71	44	92	87	38
5	42	29	55	91	55	48	66	66	46	90	85	39
6	35	24	57	96	58	48	81	81	41	97	92	35
7	44	30	55	68	41	52	52	52	49	87	82	40
8	27	18	59	90	54	49	74	74	43	102	97	29
9	35	24	57	19	18	62	25	25	56	104	99	20
10	17	12	61	79	47	51	64	64	46	101	96	31
11	38	26	56	89	53	49	67	67	45	90	86	39
12	61	41	52	86	52	49	79	79	42	94	90	37
13	19	13	61	20	12	61	36	36	53	55	52	49
14	35	24	57	51	30	55	68	68	45	69	65	46
15	27	18	59	66	40	52	37	37	53	76	72	44
16	11	7	64	3	2	69	31	31	55	41	39	53
17	9	6	65	17	10	62	13	13	61	66	62	47
18	45	31	65	76	46	51	68	68	45	91	86	39
19	40	30	55	72	43	52	71	71	44	80	74	43
20	27	18	59	54	32	54	48	48	50	82	78	42
21	51	35	54	53	32	54	46	46	51	74	70	44
22	20	14	60	46	27	56	36	36	53	67	63	46
23	36	24	57	52	31	55	64	64	46	98	93	34
24	22	15	60	54	32	54	60	60	47	80	76	43
25	39	37	56	71	43	52	53	53	49	83	79	42
26	24	16	60	38	33	57	31	31	55	69	65	46
27	44	30	55	99	60	47	79	79	42	96	91	36
28	25	17	59	31	18	59	50	50	50	91	86	39
29	42	29	55	66	40	52	62	62	47	92	87	38
30	70	48	50	74	44	51	75	75	43	85	80	41
31	42	29	55	32	19	58	31	31	55	65	61	47
32	16	11	62	94	57	48	45	45	51	82	78	42
33	19	13	61	42	25	56	37	37	53	71	67	45
34	34	23	57	79	47	51	52	52	49	71	67	45
35	45	31	55	84	50	50	73	73	44	96	90	37
36	43	29	55	55	32	54	63	63	46	91	86	39
37	38	26	56	36	21	58	41	41	52	64	60	47
38	19	13	61	46	27	56	37	37	53	73	69	45
39	32	22	52	32	19	58	33	33	54	83	79	42
40	41	28	56	52	31	55	64	64	46	94	90	37
41	37	21	58	53	32	54	54	54	49	77	73	44
42	36	21	58	43	26	56	50	50	50	90	85	39
43	44	30	55	52	31	55	35	35	54	93	88	38
44	12	8	63	51	30	55	59	59	47	79	79	43
45	30	20	58	51	30	55	24	24	57	47	44	31

TABLE V (*Continued*)

NUMBER AND PER CENT OF PUPILS ANSWERING EACH ITEM OF THE FORM TEST CORRECTLY WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
46	47	32	54	67	42	52	60	60	47	98	93	34
47	40	27	56	69	41	52	49	49	51	93	88	38
48	31	21	58	39	23	57	42	42	52	88	83	40
49	22	22	57	51	30	55	30	50	50	92	87	38
50	25	17	59	23	13	61	33	33	54	79	75	43
51	50	34	54	80	48	50	74	74	43	91	86	39
52	26	18	59	70	42	52	53	53	49	90	85	39
53	47	32	54	67	40	52	53	53	49	96	91	36
54	55	37	53	58	35	54	58	58	48	89	84	40
55	14	10	62	24	14	60	45	45	51	75	71	44
56	35	24	57	20	12	61	15	15	60	64	60	47
57	47	32	54	57	34	54	42	42	52	70	66	46
58	40	27	56	73	44	51	61	61	47	91	86	39
59	40	27	56	59	35	54	56	56	48	71	67	45
60	17	12	61	50	30	55	27	27	56	57	54	49
61	37	18	59	34	21	58	25	35	56	74	70	44
62	35	14	57	66	40	52	24	24	57	77	73	44
63	52	35	54	57	34	54	54	54	49	85	89	37
64	21	14	60	34	20	58	25	25	56	62	59	47
65	19	13	61	19	18	59	17	17	49	48	45	51
66	31	21	58	58	55	48	40	40	52	85	80	41
67	10	6	65	39	23	57	40	40	52	83	79	42
68	36	24	57	47	28	56	41	41	52	80	76	43
69	34	23	57	43	26	56	47	47	51	88	83	40
70	14	10	62	23	15	60	18	18	59	47	44	41
71	83	57	48	20	12	61	42	42	52	82	78	42
72	55	38	53	40	24	57	42	42	52	65	61	47
73	6	5	66	28	16	60	32	32	54	72	68	45
74	30	20	58	8	4	67	23	23	57	64	60	47
75	39	27	56	124	75	43	56	56	48	94	90	38

computed. In Tables III, IV, V, and VI, the results of each test are given separately for each year, showing the number of pupils answering each test item correctly, the per cent score for each item and the corresponding Standard Deviation value.

The intercorrelations between the Comprehension and Vocabulary Tests (Table VII) show a rather consistently high relationship between the two types of abilities, which tends to increase in the fourth year. The relationship between knowledge of forms and the ability to read Latin is very pronounced in the first two

TABLE VI

NUMBER AND PER CENT OF PUPILS ANSWERING EACH ITEM CORRECTLY IN THE SPEECH FEELING TEST WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
1.....	99	65	46	89	61	47	106	69	45	101	92	36
2.....	75	49	50	118	81	41	75	41	52	82	74	43
3.....	64	42	52	80	55	48	94	61	47	85	77	42
4.....	124	82	40	135	93	34	140	91	37	106	96	31
5.....	76	50	50	81	55	48	92	60	47	95	86	39
6.....	87	57	48	106	73	44	129	84	40	105	95	33
7.....	51	33	54	60	41	52	79	51	50	89	80	41
8.....	67	44	51	106	73	44	118	77	42	98	89	37
9.....	68	45	51	80	55	48	75	49	50	86	78	42
10.....	94	62	47	103	71	44	130	84	40	108	98	27
11.....	97	64	46	92	63	46	112	73	44	87	79	42
12.....	78	51	50	102	70	44	123	80	41	109	99	20
13.....	53	35	54	81	55	58	76	40	52	92	83	40
14.....	77	50	50	97	63	46	113	73	44	105	95	33
15.....	57	37	53	82	56	48	116	77	43	100	90	37
16.....	53	35	54	86	59	47	92	60	47	92	83	40
17.....	62	41	52	79	54	49	104	67	45	96	87	38
18.....	32	21	58	66	45	51	84	54	49	92	93	34
19.....	72	47	51	93	64	46	116	75	43	101	91	36
20.....	38	25	56	74	51	50	92	60	47	86	78	42
21.....	50	33	58	62	42	52	98	64	46	99	80	37
22.....	43	28	56	81	55	48	85	55	48	91	82	40
23.....	34	22	57	58	40	52	98	64	46	83	75	43
24.....	38	25	56	70	41	52	103	67	45	99	90	37
25.....	38	25	56	83	57	48	123	80	41	106	96	31
26.....	47	31	55	88	60	47	111	72	42	101	91	36
27.....	44	29	55	28	19	58	23	14	60	52	47	51
28.....	26	17	59	63	43	52	71	45	51	61	55	48
29.....	9	5	66	58	40	52	88	57	48	83	75	43
30.....	7	4	66	54	37	53	78	50	50	78	70	44
31.....	9	5	66	69	47	51	79	51	50	80	72	44
32.....	7	4	66	66	45	51	74	61	47	72	65	46
33.....	16	10	62	55	37	53	96	62	47	89	80	41
34.....	6	3	68	41	28	56	69	45	51	86	78	42
35.....	8	5	66	48	33	54	61	39	53	92	83	40
36.....	9	5	66	62	43	52	121	99	20	102	92	35
37.....	4	2	69	60	41	52	50	32	54	88	80	41
38.....	...	..	..	34	23	57	73	47	51	86	78	42
39.....	...	..	..	39	26	56	62	40	52	58	52	49
40.....	...	..	..	56	38	53	63	41	51	87	79	42
41.....	...	..	..	76	52	49	85	55	49	96	87	38
42.....	...	..	..	56	38	53	81	52	49	82	74	43
43.....	...	..	..	47	32	54	91	59	47	87	79	42
44.....	...	..	..	68	46	51	58	44	51	79	71	44
45.....	...	..	..	54	37	53	86	56	48	89	80	41

TABLE VI (*Continued*)

NUMBER AND PER CENT OF PUPILS ANSWERING EACH ITEM CORRECTLY IN THE SPEECH FEELING TEST WITH THE STANDARD DEVIATION VALUE FOR EACH ITEM

ITEM	FIRST YEAR			SECOND YEAR			THIRD YEAR			FOURTH YEAR		
	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.	NO. CORRECT	%	S. D.
45	...	..	..	54	37	53	86	56	48	89	80	41
46	...	..	..	48	33	54	80	52	49	81	73	44
47	...	..	..	51	35	54	57	37	53	74	67	45
48	...	..	..	43	29	55	67	43	52	87	60	47
49	...	..	..	53	36	53	100	71	44	98	89	37
50	...	..	..	49	31	51	85	55	48	97	88	38
51	...	..	..	30	20	58	97	63	46	69	62	47
52	...	..	..	55	38	53	84	54	49	84	76	43
53	...	..	..	46	31	55	67	43	52	93	84	40
54	...	..	..	56	38	53	74	48	50	92	83	40
55	...	..	..	37	25	56	85	55	48	84	76	43
56	...	..	..	61	42	52	68	44	51	86	78	42
57	...	..	..	46	31	55	86	57	48	93	84	40
58	...	..	..	59	40	52	50	32	54	63	57	48
59	...	..	..	30	20	58	86	56	48	81	73	44
60	...	..	..	47	32	54	74	48	50	92	83	40
61	...	..	..	52	36	53	49	32	54	71	64	46
62	...	..	..	15	10	62	30	19	68	63	57	48
63	...	..	..	45	31	55	57	37	53	75	68	45
64	...	..	..	28	19	58	43	28	56	68	61	47
65	...	..	..	64	41	52	56	36	53	70	63	46
66	...	..	..	37	25	56	48	31	55	79	71	44
67	...	..	..	46	31	55	63	41	52	84	76	43
68	...	..	..	51	35	54	74	48	50	83	75	43
69	...	..	..	29	20	55	49	32	54	60	55	48
70	...	..	..	43	29	55	65	41	52	81	73	44

TABLE VII

CORRELATIONS OF PRELIMINARY TESTS GIVEN IN NOVEMBER, 1930, SHOWING THE RELATIONSHIP BETWEEN THE COMPREHENSION AND LANGUAGE ELEMENTS TESTS

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
Comprehension vs. Vocabulary	.765 ± .024	.724 ± .031	.743 ± .029	.804 ± .028
Comprehension vs. Forms	.720 ± .026	.773 ± .023	.663 ± .039	.590 ± .246
Comprehension vs. Speech Feeling	.392 ± .049	.640 ± .039	.632 ± .043	.885 ± .019

years, but after that there is a relatively low relationship. This may be due to the fact that forms have been learned in the first two years and are not stressed after that. Speech Feeling is evidently not acquired by first year pupils in any marked degree but there is a pronounced increase in this ability in the second and third years. Speech Feeling appears to be best mastered by fourth year students after the elements of language have been mastered. It involves not only a feeling for the *correct* use of the language, but also a recognition of it as conveying an intelligible thought.

The intercorrelations of the elements of language and the ability to read and understand Latin are high enough to show a decided relationship, and the necessity of the mastery of the language elements in order to attain the immediate primary objective set up by the Classical Investigation. Consequently these intercorrelations show the need for the inclusion of the elements of language in the curriculum and hence in the testing program, and justify the assumption made in this study that the ability to read Latin and the mastery of the elements of language are not mutually exclusive.

Summary

1. Three types of responses were used in the contruction of the preliminary tests: simple recall, multiple response, and matching exercises.

2. The test items were selected in accordance with the recommendations of the Classical Investigation and the principles of test construction set up by prominent authorities in the field of measurements.

3. The test items were divided into four tests. The Comprehension Tests consisted of twenty Latin paragraphs on which were based 314 thought questions. The Vocabulary Test was made up of 113 Latin sentences composed of words of secondary school difficulty equally distributed over four years of Latin. Each item was followed by five Latin choices, to fill a blank in the sentence, making a total of 565 choices or 1151 words included in the entire test. The test on Latin Forms involved twenty functional uses of cases in 75 items. The Speech Feeling Test included the principles of syntax outlined by the Classical Investigation.

4. The Latin words used in all tests except some in the Comprehension Tests were selected from the College Entrance Examination Board Word List.

5. Including the four types of tests, 3,692 tests were given to pupils in four years of Latin. In most cases all pupils took the entire battery of tests. The tests were given in thirteen secondary schools, located in three states.

6. The correcting of test items was done by the writer or under her direct supervision. The total number of correct responses for each item on all tests was counted and the percentage of pupils answering each item correctly was found. The corresponding standard deviation value for each per cent score was found in McCall's "How to Measure in Education." These results are given in Tables III, IV, V, and VI.

7. Intercorrelations of the Language Elements Tests with the Comprehension Test, show a marked relationship between the ability to read and understand Latin and a mastery of the elements of language.

IV

CONSTRUCTION OF THE FINAL TESTS

1. Selection of Tests Items

After analyzing the results of the preliminary tests, the next step in constructing a standardized test is the pairing of items into equivalent forms, two in number, known as Form A and Form B. In arranging the items in the final tests, the tests should begin with the item of least difficulty and proceed with items of increased difficulty so that the last item of the test will represent the greatest difficulty.

The selection of items for the Comprehension Tests was limited by a time factor which must be considered in the construction of tests. In the Preliminary Test (recall form) each thought question required approximately 1.14 minutes on an average to answer. The teachers giving the tests felt that the time limit was too short. In the final test (multiple choice) it was decided to allow a slightly longer time for the Comprehension Test. However, since the test was of the multiple choice type, the performance actually required less time for each item than in the preliminary test which was of the recall type. For this reason, in order to construct a final test of two forms requiring but one class period, it was necessary to select but two Latin passages from each year's test in the preliminary form. Approximately .75 minute was allowed for each of the 61 items. These selections were given to eight Latin classes for a tryout and on this basis the time limit was fixed at 45 minutes.

The results found in Chapter III, showing the standard deviation value of each item, were used as a basis in the selection of the Latin passages. Two comprehension selections from each year of Latin were chosen as being of approximately equal difficulty according to the standard deviation value assigned to each item. It was necessary that the number of questions be the same in the corresponding passage of each form. Consequently one or two items were discarded in a few passages (Table VIII) in order that the sum of the S. D. values might be as nearly equal as possible. The items discarded were those to which several teachers objected

because they were ambiguous in form. Questions 13 and 16 were discarded in Selection II of the first year passages, questions 5, 19, 20, 21, in Selection IV of the second year; question 2 in Selection II of the third year; and question 17 of Selection I and 9, 12, and 14, of Selection II of the fourth year.

In selecting the passages for the first year it was found that the "made" Latin stories of Marcus and of Philemon and Baucis represented items of most similar difficulty. The sixteen items selected for each of these passages were arranged in order of difficulty, beginning with the item having the smallest standard deviation value. In order that each item might not vary more than a few points at any one place in the test, a cumulative sum of the standard deviation values was found, as shown in Table VIII. At no part of the entire Comprehension Test did the total standard deviation values vary by more than seventeen points.

The same process was followed in selecting passages for second, third, and fourth year difficulty. For the second year passage the two selections from Caesar's *Civil War* were taken. The third year selections were taken from Cicero's *Pro Roscio Amerino*, and the fourth year passages from Books I and II of Vergil's *Georgics*.

The thought questions based on these passages in the preliminary test required a simple recall response. The questions in the final tests were arranged in multiple response form. In tabulating the results of the preliminary test, each pupil's incorrect answer was recorded for each test item. In case the answers to the questions asked could not be found in the passage, the pupil was instructed to write, "It doesn't say." This type of answer was inserted to reduce guessing to a minimum. Such a situation also requires a more thorough comprehension of all details of thought in the passage. Of the five choices offered as possible answers to each thought question, one was the correct answer, while the other four were selected from the most frequent incorrect responses made by the pupils in the preliminary test. The position of the correct answer in each test item was arranged by chance. Five playing cards were selected, ace, two, three, four, and five spot. The cards were shuffled and for each item the card drawn represented the number of the position of the correct item. This

accounts for the fact that in several successive items the correct responses were placed in the same position.

The final Comprehension Test, arranged for four years of Latin, was made up of the following number of items in each form of the test:

First year	16 items
Second year	17 items
Third year	12 items
Fourth year	16 items
Total	61 items

In Chapter III the total number of items found in the Comprehension Tests in the preliminary form was 314. Approximately one-fifth of these items were selected for use in each form of the final test. It was inevitable that the items were reduced to such a large extent in constructing the final tests. As previously stated in this chapter the final Comprehension Tests were limited to one class period of approximately 45 minutes. For this reason only two passages could be selected for each year of Latin. The very fact that three passages were eliminated for each year of Latin automatically reduced the final number of items to approximately two-fifths of the original number. It is significant also that the Ullman-Kirby Test, which measures comprehension by means of 33 thought questions in recall form contains ten short Latin passages with a total number of 400 Latin words. The Deferrari Comprehension Test, similar in form, containing 30 thought questions, is made up of 355 Latin words. The Comprehension Tests in this study contain 350 Latin words in the four selections with 61 questions answered in multiple choice form, which gives approximately twice as large a sampling of the thought of the passage as the Ullman-Kirby and Deferrari Tests.

The final Vocabulary Test was composed of approximately 35 per cent of the original items in each form. The test contains about 200 words in each form, each of the 40 items being followed by five Latin choices. To obtain a satisfactory score a pupil

should recognize almost 400 Latin words. In the length of time allotted to the Vocabulary Test this was the greatest number of items that could be offered a pupil for completion. In direct contrast the White Vocabulary Test demands a recognition of 100 Latin words offered in isolation, each followed by four English choices.

The Form Test was limited to twenty-five items, 33 per cent of the original number, containing 142 Latin words in each form. The Speech Feeling Test of thirty items, 43 per cent of the original test, contained about 140 Latin words in each form using 150 Latin words as choices. Fifteen minutes were allowed for each of these two tests so that it was impossible to allow a greater number of items in the final tests. The Godsey Latin Composition Test, similar to these two tests, contains 33 items using about 130 Latin words in the sentences and 132 in the choices. The same time limit of 30 minutes is placed on the Form and Speech Feeling Tests combined. They contain fifty-five items, covering about twice as many Latin words as the Godsey Test besides diagnosing separately the functional understanding of case forms and the feeling for correctness and sense of the sentence as a whole.

Although the testing time was the limiting factor in the number of items selected for each part of the test, the number of Latin words found in similar Latin tests served the investigator as a means of justifying the selection of 40 per cent to 85 per cent of the preliminary items for the final test. The preliminary Speech Feeling Test was constructed in recall form, so that there was not sufficient time in one class period for more than 70 items. In selecting 30 of these items for the final test, therefore, the percentage of items selected was larger than in the other tests of the battery.

The standard deviation value of each item and the sum of these values are listed in Table VIII for the entire Comprehension Test, Form A and Form B.

The total sum of the standard deviation values shows the close similarity that exists between Form A and Form B of the Comprehension Tests.

	Form A	*Form B*
First year	774	760
Second Year	837	838
Third Year	458	465
Fourth year	705	722
Total	2774	2785

Since the contributory objective considered essential for the progressive development of the power to read and understand Latin is the mastery of the elements of language, vocabulary, forms and syntax, it was decided to group these tests together in one booklet (Language Elements Tests), and so to arrange the test that it could be given in 45 minutes time, allowing approximately 15 minutes for the completion of each of the three tests. With the time factor limited to one class period it was evident that no one of the tests could be very lengthy. It is known that the reliability of a test increases to a certain point with an increased number of test items.[1] If any one of the tests was to be given separately, the small number of items would enter as a factor in determining the reliability of that part of the test. However, because the mastery of the three language elements is necessary to attain the immediate objective of Latin, the three tests will be considered as one test and their separate use is not advised.

Pupils taking the preliminary tests were asked to note the time required by them to complete the tests. Each item in the Vocabulary Test required approximately .38 of a minute to answer. This was considered sufficient time by the teachers giving the tests. In the final test .37 minute was allowed for each item. Both the preliminary and the final Vocabulary Tests were given in multiple choice form. Hence the 40 items in each form of the Vocabulary Test were allotted about 15 minutes for completion. In the Form Test .71 of a minute on an average was spent in answering each item. Since the number of questions with which to match each item was reduced from twenty to eleven, it was

[1] Ruch, G. M. and Stoddard, G. D., *Tests and Measurements in High School Instruction*, New York, World Book Co., 1927, p. 52.

TABLE VIII

ITEMS SELECTED FOR FINAL COMPREHENSION TESTS WITH THE SUM OF THE S. D. VALUES

FIRST YEAR						SECOND YEAR					
FORM A			FORM B			FORM A			FORM B		
ITEM	S. D.	Σ S.D.	ITEM	S. D.	Σ S.D.	ITEM	S. D.	Σ S.D.	ITEM	S. D.	Σ S.D.
1	44	44	2	44	44	6	47	47	1	38	38
18	45	89	6	44	88	16	47	94	10	45	83
17	46	135	5	45	133	2	47	141	8	47	130
7	47	182	4	45	178	3	47	188	2	48	178
10	47	229	12	45	223	8	47	235	9	48	226
3	47	276	13	46	269	4	47	282	14	49	275
8	48	324	9	46	315	7	47	329	3	50	325
4	48	372	15	46	361	1	49	378	17	50	375
12	48	420	7	47	408	5	49	427	4	51	426
9	49	469	3	49	457	17	49	476	6	51	477
14	49	518	10	49	506	13	49	525	11	51	528
2	50	568	11	49	555	15	50	575	12	51	579
6	50	618	16	49	604	9	51	626	13	51	630
11	51	669	1	49	653	14	52	678	15	51	681
5	51	720	14	50	703	10	53	731	7	52	733
15	54	774	8	57	760	11	53	784	16	52	785
	...	...	...	...	...	12	53	837	18	53	838

THIRD YEAR						FOURTH YEAR					
4	31	31	3	29	29	15	35	35	1	31	31
1	34	65	7	31	60	1	33	68	6	44	75
2	35	100	8	36	96	6	40	108	2	46	121
3	36	136	10	36	132	5	43	151	3	46	167
5	36	172	13	36	168	7	44	195	4	46	213
8	37	210	6	39	207	10	45	240	5	46	259
6	39	249	11	40	247	4	46	286	8	46	305
12	39	288	5	40	287	2	46	332	10	46	351
7	41	329	9	42	329	11	46	378	13	46	397
9	42	371	12	45	374	14	46	424	15	46	443
10	43	414	4	45	419	16	46	470	17	46	489
11	44	458	1	46	465	3	47	517	18	46	535
.....	...	...	...	...	...	8	47	564	19	46	581
.....	...	...	...	...	...	9	47	611	7	47	628
.....	...	...	...	...	...	12	47	658	11	47	675
.....	...	...	...	...	...	13	47	705	16	47	722

estimated that less time would be required in the final test. Each of the 25 items consequently was allotted .60 of a minute or 15 minutes for the entire test. Each item in the Speech Feel-

ing Test (recall form) required .60 of a minute. The final test was changed to multiple choice form. It was estimated that if each of the final items were allowed .50 of a minute, that 30 items could be answered in 15 minutes. The final selection of this number of items was given an experimental tryout in eight classes and a 45-minute class period was found adequate for each form of the entire Language Elements Test.

In constructing the final form of the Vocabulary Test, 80 items of the original 113 were selected. The first basis used in discarding the thirty-three items was the criticism of certain items reported by teachers giving the preliminary tests. It was found that in items 10 and 113 two or more choices might result in a sensible completion of the Latin sentences. The two items were discarded for this reason.

Another method was employed in the elimination of test items. All vocabulary papers returned in the preliminary test were arranged in order of scores year by year beginning with the lowest score. The middle paper of each group was considered the median score. The median for the first year was found to be 25, for the second year, 43, for the third year, 62 and for the fourth year 76. Pupils with scores higher than the median were considered in the "Good" group; those with scores lower than the median in the "Poor" group.[2] The number of pupils in each group answering each item correctly was found. If the number of pupils in the "Poor" group, answering a given item correctly was approximately the same or greater than the number in the "Good" group so answering, the item was considered to lack value in discriminating small differences in ability. Such an item was consequently discarded.

Not all items were measured for all pupils according to this criterion. The first fifty-seven items consisting of words of first and second year difficulty were examined for first year pupils. The first eighty-five items of first, second, and third year difficulty were analyzed for second year pupils. Items 30 to 113 of second, third, and fourth year difficulty were considered for third year pupils. For fourth year pupils, items 58 to 113 of third

[2] Ruch, G. M. and Stoddard, G. D., *Tests and Measurements in High School Instruction*, New York, World Book Co., 1927, p. 326.

and fourth year difficulty were analyzed. Of all the items analyzed only six (13, 30, 31, 33, 47, 96) were discarded because of lack of discriminative value between "Good" and "Poor" groups. (See Table IX.)

The third basis for discarding items was the standard deviation value for each item shown in Table IV (Chapter III). The per cent of pupils answering each item correctly was listed with the corresponding Standard Deviation value for each year separately. It may be assumed that the difficulty of each item will decrease after the first year, i.e. a second year pupil may be expected to answer the first fifty-seven items more satisfactorily than a first year pupil. A third year pupil may be expected to do even better work and a fourth year pupil still better.[3] In analyzing the results year by year it was found that in a number of items the Standard Deviation values increased in second, third or fourth years instead of decreased. Such items (1, 9, 11, 12, 14, 22, 34, 35, 40, 43, 46, 52, 53, 59, 70, 71, 73, 95, 97, 102, 103, 104, 107, 111, 112) were judged unsatisfactory and consequently these twenty-five items were discarded on this basis. The ability of a first or second year pupil to recognize the meaning of a word designated as belonging to the first two years of Latin may be explained by its frequency of use in those years and its absence or relative infrequency in third and fourth year reading.

The final test was constructed from the eighty items which remained. It was found impossible to scale the items properly by using the standard deviation values for each year separately. For this reason the entire number of pupils answering each item correctly was computed and the percentage found. The corresponding standard deviation value was found for each item by McCall's scale.[4] When this process was completed the series of 80 items was divided into Form A and Form B, the items with the lowest standard deviation values being placed first. Care was taken to place items with corresponding standard deviation values in the same position in each form so that at no

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[3] *Op. cit.*, p. 320.
[4] McCall, *op. cit.*, p. 271-292.

TABLE IX

NUMBER OF "GOOD" AND "POOR" PUPILS ANSWERING EACH ITEM OF THE VOCABULARY TEST CORRECTLY

ITEM	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	GOOD	POOR	GOOD	POOR	GOOD	POOR	GOOD	POOR
1	77	68	84	56	....	....	....	....
2	77	61	91	73	....	....	....	....
3	56	31	87	50	....	....	....	....
4	75	72	97	70	....	....	....	....
5	70	56	95	74	....	....	....	....
6	55	40	90	71	....	....	....	....
7	30	25	56	39	....	....	....	....
8	45	26	68	43	....	....	....	....
9	55	45	93	71	....	....	....	....
10	15	14	30	12	....	....	....	....
11	33	25	70	38	....	....	....	....
12	38	21	59	28	....	....	....	....
13	19	27	49	25	....	....	....	....
14	39	20	34	31	....	....	....	....
15	20	19	66	19	....	....	....	....
16	32	29	80	46	....	....	....	....
17	40	15	83	42	....	....	....	....
18	39	18	79	18	....	....	....	....
19	39	14	52	28	....	....	....	....
20	13	8	72	32	....	....	....	....
21	16	10	55	31	....	....	....	....
22	14	6	61	13	....	....	....	....
23	15	6	45	28	....	....	....	....
24	19	10	79	42	....	....	....	....
25	14	13	64	23	....	....	....	....
26	17	9	72	24	....	....	....	....
27	19	10	71	20	....	....	....	....
28	14	12	71	28	....	....	....	....
29	18	6	66	23	....	....	....	....
30	4	7	19	5	25	4	....	....
31	9	12	39	12	49	43	....	....
32	18	10	26	5	20	16	....	....
33	3	6	58	23	59	38	....	....
34	14	4	48	16	34	27	....	....
35	39	15	81	51	50	47	....	....
36	14	6	18	12	19	3	....	....
37	20	6	72	25	62	54	....	....
38	6	1	31	12	43	33	....	....
39	7	1	44	20	62	36	....	....
40	17	8	54	24	64	46	....	....
41	13	8	25	13	30	9	....	....
42	15	7	43	11	50	34	....	....
43	28	10	89	36	69	53	....	....
44	32	11	34	19	57	14	....	....
45	9	3	39	19	54	36	....	....
46	22	9	52	14	67	42	....	....
47	28	3	35	32	16	16	....	....

TABLE IX *(Continued)*

NUMBER OF "GOOD" AND "POOR" PUPILS ANSWERING EACH ITEM OF THE VOCABULARY TEST CORRECTLY

ITEM	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	GOOD	POOR	GOOD	POOR	GOOD	POOR	GOOD	POOR
48	19	9	68	17	63	43	....	....
49	15	8	47	7	42	27	....	....
50	13	6	82	26	68	49	....	....
51	31	8	73	41	57	54	....	....
52	15	3	39	11	18	5	....	....
53	8	5	43	14	49	28	....	....
54	46	14	61	20	58	46	....	....
55	17	8	54	20	36	33	....	....
56	21	4	41	14	52	39	....	....
57	23	9	21	16	54	24	....	....
58	....	....	45	19	36	29	60	42
59	....	....	38	22	61	50	67	31
60	....	....	71	7	69	61	59	32
61	....	....	27	18	46	19	61	42
62	....	....	45	17	53	41	58	48
63	....	....	56	8	60	36	67	38
64	....	....	51	5	57	23	60	30
65	....	....	33	11	51	11	....	....
66	....	....	54	7	45	21	56	31
67	....	....	31	6	43	27	59	41
68	....	....	24	7	29	10	48	25
69	....	....	16	7	49	28	66	29
70	....	....	20	4	41	17	55	24
71	....	....	27	14	32	13	52	26
72	....	....	31	6	48	22	65	31
73	....	....	39	5	29	10	60	28
74	....	....	45	13	46	26	62	29
75	....	....	45	13	50	25	57	30
76	....	....	44	14	52	40	59	39
77	....	....	49	6	61	27	66	35
78	....	....	48	4	56	42	66	33
79	....	....	24	3	43	19	53	38
80	....	....	40	8	65	34	64	53
81	....	....	47	11	60	17	64	32
82	....	....	29	8	50	25	67	29
83	....	....	47	10	48	37	82	39
84	....	....	47	22	57	27	61	38
85	....	....	23	6	43	7	55	28
86	....	....	....	....	50	28	63	20
87	....	....	....	....	56	28	69	29
88	....	....	....	....	36	20	54	24
89	....	....	....	....	43	17	69	32
90	....	....	....	....	36	7	52	7
91	....	....	....	....	35	12	53	18
92	....	....	....	....	11	7	46	4
93	....	....	....	....	56	34	68	19
94	....	....	....	....	41	21	60	29

TABLE IX (*Continued*)

NUMBER OF "GOOD" AND "POOR" PUPILS ANSWERING EACH ITEM OF THE VOCABULARY TEST CORRECTLY

ITEM	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	GOOD	POOR	GOOD	POOR	GOOD	POOR	GOOD	POOR
95	....	....	....	....	37	11	59	5
96	....	....	....	....	21	21	47	11
97	....	....	....	....	24	12	48	23
98	....	....	....	....	28	12	60	29
99	....	....	....	....	27	15	62	24
100	....	....	....	....	20	18	59	14
101	....	....	....	....	33	21	60	24
102	....	....	....	....	18	5	61	6
103	....	....	....	....	10	8	54	22
104	....	....	....	....	28	14	61	29
105	....	....	....	....	14	7	60	15
106	....	....	....	....	23	4	52	35
107	....	....	....	....	18	10	60	13
108	....	....	....	....	21	4	64	12
109	....	....	....	....	33	10	66	33
110	....	....	....	....	29	5	63	33
111	....	....	....	....	11	17	53	24
112	....	....	....	....	11	6	42	18
113	....	....	....	....	25	13	65	31

TABLE X

DISTRIBUTION OF PARTS OF SPEECH IN FINAL VOCABULARY TEST

FORM A				FORM B			
NOUNS	ADJS.	VERBS	MISCELLANEOUS	NOUNS	ADJS.	VERBS	MISCELLANEOUS
Item:				Item:			
18	3	2	27	4	7	20	8
5	24	106	50	6	19	15	25
58	54	21	82	16	61	86	44
83	56	37	72	17	75	84	69
93	57	23	109	42	38	49	101
55	41	39	.....	51	48	64	.....
76	65	45	.....	26	94	66	.....
89	88	62	.....	63	100	98	.....
36	78	77	.....	87	108	90	.....
67	81	29	.....	28	.....	110	.....
99	.....	85	.....	80	.....	32	.....
79	.....	92	.....	74	.....	68	.....
.....	.....	105	.....	60	.....	.....	.....
.....	.....	.....	.....	81	.....	.....	.....
12	10	13	5	14	9	12	5

NOTE: Numbers listed here refer to the serial numbers of the items in the preliminary form of the test.

point in the test would the values vary by more than one or two points. It will be noticed in Table XI that the sum of the standard deviation values in each form equals 1967.

An attempt was made when selecting the items for Forms A and B of the test to keep an almost equal number of parts of speech in each form. This proved to be a deciding factor in choosing between two or more items which were to be eliminated. The distribution of the 80 items selected is shown in Table X.

The words representing the various parts of speech as indicated in Table X were selected in approximately the same proportion as the words found in the New York State List. Of approximately 1,875 words given for the four years of Latin 34 per cent are nouns, 35 per cent are verbs, 20 per cent are adjectives or pronouns, and 11 per cent are of a miscellaneous type, such as prepositions, conjunctions, etc. Of the 80 items making up the Vocabulary Test used in this study, 32.5 per cent are nouns, 31.3 per cent are verbs, 23.7 per cent are adjectives, and 12.5 per cent are of a miscellaneous type.

It was necessary also to maintain a fairly even distribution of words according to their assumed years of difficulty. The final test items selected are made up of twenty-two first year items, sixteen second year items, twenty-four third year items, and eighteen fourth year items. Counting the entire number of Latin words of each year's difficulty offered as choices there are 209 of first year difficulty, 169 of second year difficulty, 265 of third year difficulty, 189 of fourth year difficulty including a total of 400 choices of Latin words offered in the entire test, or 834 words in all the items. Dividing the series of items into two forms, there are in each form 200 choices and approximately 417 words in all the items.

The choices used in the items of the Vocabulary Tests were checked against Latin words in the word list of the Grinstead Latin-English Derivative Lexicon. Each word appearing in this lexicon has been given a certain weight indicative of its importance for English etymology.[5] According to these weights the first six decades are as follows:

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[5] *Op. cit.*, p. ??.

Decade	*Weight*
1	Above 50
2	34—50
3	27.1—33
4	23.1—27
5	18.1—23
6	15.1—18

The weights have been computed from the number of words appearing in the English language for each Latin word listed. The number, frequency and distribution of the filiates were each plotted separately and divided into deciles. The three decile measures were combined to find a primary rating. The weight cited in the table above is the summation of the primary rating of the Latin word and all its Latin filiates. A sampling of 400 of the 5,400 words was used to establish ten approximately equal deciles or decades, six of which have been listed here. Weights below the lower limit of Decade 6 were not considered statistically reliable. Decade 1 contains Latin words with a large number of English filiates (such as *facio*). Decade 6 contains Latin words with a comparatively few filiates.

It was found that of the 400 Latin words offered as choices in both forms of the tests, 154 have a weight of 50 or more, thus falling in the first decade. Only seventy-nine words listed were not found in the Derivative Lexicon and are, therefore, considered as having no value for the study of English and as not contributing to the ultimate objective. Of the seventy-nine words not listed in the lexicon, thirty-eight were of the miscellaneous type (conjunctions, prepositions and adverbs), for which English filiates are seldom found. The decades into which the 400 words fall were found to be:

Decade	*Form A*	*Form B*
1	74	80
2	29	20
3	27	17
4	15	11
5	13	16
6	6	13
Not classified	36	43
	200	200

TABLE XI

ITEMS SELECTED FOR THE FINAL VOCABULARY TEST SHOWING THE SUM OF THE STANDARD DEVIATION VALUES

FORM A			FORM B		
ITEM	S. D.	Σ S. D.	ITEM	S. D.	Σ S. D.
2.....	33	33	4.....	31	31
5.....	36	69	6.....	40	71
3.....	41	110	16.....	42	113
24.....	45	155	17.....	43	156
54.....	46	201	8.....	44	200
18.....	47	248	20.....	47	247
21.....	47	295	25.....	47	294
27.....	47	342	42.....	47	341
50.....	47	389	15.....	47	388
57.....	47	436	7.....	47	435
58.....	47	483	19.....	48	483
37.....	48	531	51.....	48	531
23.....	49	580	26.....	49	580
39.....	49	629	44.....	49	629
45.....	49	678	61.....	49	678
56.....	49	727	63.....	49	727
62.....	49	776	86.....	49	776
83.....	49	825	87.....	49	825
55.....	50	875	75.....	50	875
77.....	50	925	28.....	50	925
82.....	50	975	80.....	50	975
29.....	50	1025	84.....	50	1025
93.....	50	1075	38.....	51	1076
41.....	51	1126	49.....	51	1127
65.....	51	1177	64.....	51	1178
72.....	51	1228	66.....	51	1229
76.....	51	1279	74.....	51	1280
88.....	51	1330	98.....	51	1331
85.....	52	1382	60.....	52	1383
79.....	52	1434	69.....	52	1435
78.....	52	1486	68.....	52	1487
89.....	52	1583	101.....	52	1539
36.....	53	1591	48.....	53	1592
67.....	53	1644	90.....	53	1645
92.....	53	1697	94.....	53	1698
99.....	53	1750	100.....	53	1751
109.....	53	1803	110.....	53	1804
106.....	53	1856	32.....	54	1858
81.....	54	1910	108.....	54	1912
105.....	57	1967	91.....	55	1967

NOTE: Numbers listed under Item refer to the serial number of items found in the Preliminary Test.

Since 80 per cent of the Latin words used as choices in the Vocabulary Test have a definite value in the development of an English vocabulary as well as a Latin vocabulary, it may be concluded that the words used in the test contribute to the attainment of the ultimate objectives as well as the immediate objectives set up by the Classical Investigation.

The final test on Latin forms was constructed on the same basis as that used for the elimination of items in the Vocabulary Test. Teachers who gave the test suggested that several items be discarded because the underlined phrase answered more than one question. Three items (29, 43, 70) were dropped for this reason. Papers were divided according to years into a "Good" and "Poor" group (see Table XII). It was found, however, that a sufficiently large number of pupils in the "Good" group answered each item correctly more frequently than in the "Poor" group. Therefore, no items were discarded from the test on this basis. The standard deviation values listed for each year in Table V (page 71) served as the chief source of elimination of items. If the standard deviation value of an item increased throughout the years instead of decreasing the item was discarded as unsatisfactory. Since 75 per cent of the test items were of first or second year difficulty it was assumed that the number of correct responses should increase in third and fourth years. Twenty-two of the seventy-five items (3, 9, 16, 28, 30, 31, 32, 37, 39, 45, 50, 54, 56, 57, 62, 63, 65, 66, 71, 72, 74, 75) were discarded on this basis.

In the final selection of items care was taken to distribute the number of items equally in Form A and Form B, so that there would be little if any duplication of case uses in the two forms of the test. This proved to be a deciding factor in eliminating items of equal difficulty. If the use of an ablative case was needed, the ablative case was selected in place of the other item under consideration. Two forms of a test of this function might contain identically the same constructions applied in different sentences, or the same cases in different construction. The latter solution was chosen because of a wider sampling of the possible constructions if both forms are used. The reliability[6] found for this test seems to justify the use of this method.

[6] Chapter V, p. 159.

TABLE XII

NUMBER OF "GOOD" AND "POOR" PUPILS ANSWERING EACH ITEM OF THE FORM TEST CORRECTLY

ITEM NO.	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	GOOD	POOR	GOOD	POOR	GOOD	POOR	GOOD	POOR
1	45	44	68	56	48	25	50	43
2	39	16	76	43	58	16	56	32
3	52	27	67	45	40	15	62	23
4	38	20	65	40	53	18	51	41
5	33	9	61	30	43	23	61	29
6	27	8	71	25	51	30	63	34
7	38	6	48	20	31	21	62	25
8	43	7	56	41	46	28	62	40
9	25	10	22	10	13	12	52	52
10	15	2	66	13	34	30	69	32
11	27	11	60	29	63	14	55	35
12	45	16	64	27	57	22	63	31
13	15	4	14	6	24	12	41	14
14	30	5	50	14	42	26	43	27
15	20	7	58	8	27	10	51	25
16	11	0	113	7	22	9	29	12
17	9	0	11	10	9	4	43	20
18	38	7	64	12	44	24	70	21
19	31	9	63	19	50	21	50	30
20	23	4	37	17	31	17	61	21
21	50	7	43	10	29	17	63	11
22	21	3	39	7	19	17	43	24
23	38	14	59	21	48	16	73	25
24	20	2	42	12	40	20	55	25
25	25	14	53	18	38	15	67	16
26	24	5	25	13	18	13	47	22
27	35	9	85	14	57	22	67	19
28	25	0	28	21	35	15	54	37
29	37	5	56	7	47	15	62	30
30	55	15	59	15	43	32	54	31
31	31	11	25	19	18	13	48	17
32	12	4	64	30	32	13	64	18
33	15	4	27	16	19	17	48	23
34	24	10	64	15	38	14	44	27
35	37	8	71	13	44	29	69	27
36	37	6	58	25	41	22	61	30
37	21	17	36	17	27	14	43	21
38	17	2	38	8	24	13	46	27
39	24	8	34	11	18	15	65	18
40	33	8	53	4	47	17	73	21
41	29	8	46	11	43	11	49	28
42	25	11	50	7	30	20	65	25
43	39	5	39	13	28	7	69	24
44	11	1	28	23	37	22	57	22
45	28	2	28	23	15	9	33	14
46	31	16	58	14	49	11	63	35

TABLE XII (*Continued*)
NUMBER OF "GOOD" AND "POOR" PUPILS ANSWERING EACH ITEM OF THE FORM TEST CORRECTLY

ITEM NO.	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	GOOD	POOR	GOOD	POOR	GOOD	POOR	GOOD	POOR
47	39	1	55	14	27	22	72	21
48	26	5	27	12	31	11	63	25
49	13	9	48	10	37	13	67	25
50	16	9	19	4	19	14	56	23
51	39	11	60	20	48	26	57	34
52	17	5	56	14	38	25	53	37
53	39	8	55	12	48	5	68	28
54	42	13	62	20	42	16	63	26
55	13	1	22	2	32	15	58	17
56	20	15	15	5	9	6	42	22
57	35	11	48	9	30	12	48	22
58	34	6	61	12	48	13	71	17
59	28	12	49	10	34	22	51	20
60	14	3	40	10	20	7	43	14
61	20	17	23	11	16	9	49	25
62	30	5	55	11	19	5	52	25
63	47	5	64	14	38	16	69	16
64	19	2	30	4	19	6	49	13
65	11	8	15	4	10	7	27	21
66	18	13	45	13	29	11	67	18
67	8	2	36	3	29	11	67	16
68	23	13	33	14	30	11	66	16
69	24	10	41	2	52	15	62	26
70	9	5	19	4	11	7	27	20
71	53	30	17	3	27	15	68	14
72	45	10	54	9	28	14	47	18
73	5	1	27	1	19	13	58	14
74	24	6	27	7	18	5	42	22
75	28	11	81	43	38	15	70	24

In order to distribute the remaining fifty items between Form A and Form B, it was necessary to add the total number of correct responses for each item regardless of year and compute the per cent score and the standard deviation value for each item. When this was completed the two items with the lowest standard deviation value were selected as the item of least difficulty in each test. The items next highest in value were then selected and the standard deviation values added cumulatively so that at no point in the test did the standard deviation values vary more than two points. The total values for the twenty-five items in each form of the test varied but one point, 1,276 for Form A and 1,277 for Form B.

The total number of questions based on the functional use of case forms was limited to eleven in each form of the test, of which three questions were duplicated in each form. Since the Language Elements Test was limited to 45 minutes, it was necessary to allow but 15 minutes for the completion of the Forms Test. The very nature of the test also called for a reduction in the number of questions to match with the test items, since a larger number would require too much time for the matching process and would be an added limitation of the test. Guessing was reduced to a minimum by having two or more items serving as correct answers to each question. This precaution was further strengthened by the inclusion of two items which answered "No Question" (Chapter III, page 61).

The process of pairing individual test items is shown in Table XIII.

TABLE XIII

ITEMS SELECTED FOR THE FINAL FORM TEST SHOWING THE SUM OF THE STANDARD DEVIATION VALUES

FORM A			FORM B		
ITEM	S. D.	Σ S. D.	ITEM	S. D.	Σ S. D.
1	44	44	2	46	46
4	47	91	8	47	93
12	47	138	27	47	140
5	48	186	23	48	188
6	48	234	11	48	236
51	48	282	35	48	284
36	49	331	46	49	333
53	50	381	18	49	382
40	50	431	58	50	432
47	50	481	7	50	482
10	50	531	21	50	532
34	51	582	19	50	582
52	51	635	25	51	633
59	52	685	14	51	684
24	52	737	42	51	735
49	52	789	20	52	787
69	52	841	41	52	839
44	53	894	68	53	892
15	53	947	48	53	945
67	54	1001	38	54	999
26	54	1055	61	54	1053
22	54	1109	33	54	1107
55	55	1164	73	56	1163
60	56	1220	64	56	1219
13	56	1276	17	58	1277

NOTE: Numbers under Item refer to the serial number of the items in the Preliminary Test.

The final items in the Speech Feeling Test were selected on the same basis as in the two preceding tests. In accordance with the fifteen-minute time limit set for taking of this test, it was decided to use sixty items in the final test, thirty for each form. Two items (7 and 45) were considered ambiguous by the teachers who gave the test and were consequently discarded. On dividing the papers of all years into "Good" and "Poor" groups it was found that none of the items lacked discriminative value between the "Good" and "Poor" pupils (Table XIV). Eight items (2, 27, 37, 48, 51, 53, 61, 65) were discarded because the standard deviation value of these items failed to decrease in the results from year to year. First and second year items were analyzed to obtain the difference in the number of correct answers for first year pupils. First, second, and third year items were analyzed for second year pupils. For third year pupils, second, third, and fourth year items were examined, and for fourth year pupils only third and fourth year items. Of the remaining sixty items 21 were of first year difficulty, 25 of second year difficulty, 6 of third year difficulty and 9 of fourth year difficulty. This number is in proportion with the distribution of principles of syntax outlined in the Report of the Classical Investigation.[7]

In the preliminary tests the answers were of the simple recall type. In tabulating the preliminary results, the incorrect answers to each item were recorded. When selecting the choices for the multiple response type of answer in the final test, the most common incorrect responses were used as four of the choices. Since a few of the items did not contain an incorrect statement, the pupil was asked to write "Correct" as his answer. For this reason "Correct" was given as a choice in most of the items.

The position of the correct answer to the item was selected by chance as in the Comprehension Test[8]. This again accounts for the similar position allotted to certain successive items. The total number of correct responses for each of the remaining items for all years of Latin was computed. The per cent score was found for each item and the standard deviation value assigned to

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[7] See Chapter II, p. 39.
[8] See Chapter IV, p. 78.

TABLE XIV

NUMBER OF "GOOD" AND "POOR" PUPILS ANSWERING EACH ITEM OF THE SPEECH FEELING TEST CORRECTLY

ITEM NO.	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	GOOD	POOR	GOOD	POOR	GOOD	POOR	GOOD	POOR
1	54	45	69	20	....	....	....	....
2	47	28	66	52	....	....	....	....
3	44	20	64	16	....	....	....	....
4	82	42	80	55	....	....	....	....
5	48	23	50	31	....	....	....	....
6	56	31	65	41	....	....	....	....
7	38	13	42	18	....	....	....	....
8	43	24	69	37	....	....	....	....
9	48	20	65	15	....	....	....	....
10	69	25	71	32	....	....	....	....
11	69	25	57	35	....	....	....	....
12	59	19	62	40	....	....	....	....
13	42	11	47	34	....	....	....	....
14	55	22	69	28	....	....	....	....
15	44	13	55	27	....	....	....	....
16	39	14	58	28	....	....	....	....
17	46	16	54	25	....	....	....	....
18	20	12	46	20	....	....	....	....
19	50	22	67	26	....	....	....	....
20	30	8	54	20	....	....	....	....
21	35	15	48	14	....	....	....	....
22	33	10	65	16	....	....	....	....
23	20	14	43	15	....	....	....	....
24	30	8	55	15	....	....	....	....
25	25	13	65	18	86	37	....	....
26	28	19	69	19	70	41	....	....
27	31	13	24	4	13	10	....	....
28	20	6	45	18	51	16	....	....
29	7	2	46	12	60	28	....	....
30	7	0	43	11	60	18	....	....
31	9	0	48	21	50	29	....	....
32	6	1	55	11	70	24	....	....
33	12	4	40	15	72	24	....	....
34	6	0	31	10	53	16	....	....
35	8	0	37	11	49	12	....	....
36	9	0	50	12	82	39	....	....
37	4	0	56	14	44	16	....	....
38	0	0	34	0	61	12	....	....
39	0	0	36	3	48	14	....	....
40	1	0	45	11	49	14	....	....
41	0	1	36	20	60	21	....	....
42	0	0	38	18	53	28	....	....
43	4	0	32	15	64	27	....	....
44	0	0	57	11	53	13	....	....
45	6	7	38	16	56	30	....	....
46	0	0	38	10	64	16	....	....
47	1	1	30	21	44	13	....	....

TABLE XIV (*Continued*)

NUMBER OF "GOOD" AND "POOR" PUPILS ANSWERING EACH ITEM OF THE SPEECH FEELING TEST CORRECTLY

ITEM NO.	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	GOOD	POOR	GOOD	POOR	GOOD	POOR	GOOD	POOR
48	0	0	33	10	54	13	....	....
49	2	0	35	18	71	41	....	....
50	1	0	32	17	58	27	....	....
51	2	0	30	0	52	33	....	....
52	1	0	30	0	70	27	....	....
53	....	....	47	8	68	16	71	22
54	....	....	47	11	56	18	60	32
55	....	....	28	9	59	26	65	27
56	....	....	51	10	47	21	62	22
57	....	....	26	20	63	25	57	29
58	....	....	46	13	32	10	73	20
59	....	....	41	18	36	14	53	40
60	....	....	....	....	66	20	51	30
61	....	....	....	....	51	23	69	23
62	....	....	....	....	17	13	31	20
63	....	....	....	....	36	21	51	12
64	....	....	....	....	30	13	62	13
65	....	....	....	....	45	11	49	19
66	....	....	....	....	34	14	60	10
67	....	....	....	....	45	18	65	15
68	....	....	24	3	56	18	62	21
69	....	....	....	....	29	20	40	20
70	....	....	24	0	46	17	63	18

each one. The items with the lowest values were used as the first test item respectively in Form A and Form B of the final test. The items with the next highest values were assigned to the next place in the two forms. At the same time the cumulative sum of the standard deviation values was found so that the score of any item would not vary more than one or two points at any place in either form of the test. The total sum of the standard deviation scores was 1519 for Form A and 1520 for Form B. The complete sums are found in Table XV.

The entire battery of tests consists of two parts with the following distribution of items:

COMPREHENSION TEST—PART I
Form A

	Items
Part A—Multiple response	16
Part B—Multiple response	17
Part C—Multiple response	12
Part D—Multiple response	16
Total	61

COMPREHENSION TEST
Form B

Part A—Multiple response	16
Part B—Multiple response	17
Part C—Multiple response	12
Part D—Multiple response	16
Total	61

LANGUAGE ELEMENTS TESTS
Form A

Part II—Vocabulary Test	Multiple response	40
Part III—Form Test	Matching exercise	25*
Part IV—Speech Feeling Test	Multiple response	30
Total		95

LANGUAGE ELEMENTS TESTS
Form B

Part II—Vocabulary Test	Multiple response	40
Part III—Form Test	Matching exercise	25*
Part IV—Speech Feeling Test	Multiple response	30
Total		95

*—11 choices.

ENTIRE BATTERY

	Items
Comprehension Test, Form A	61
Language Elements Tests, Form A	95
Total	156

Comprehension Test, Form B	61
Language Elements Tests, Form B	95
Total	156

TABLE XV

ITEMS ELECTED FOR THE FINAL SPEECH FEELING TEST SHOWING THE SUM OF THE STANDARD DEVIATION VALUES

FORM A			FORM B		
ITEM*	S. D.	Σ S. D.	ITEM	S. D.	Σ S. D.
10	42	42	6	43	43
12	44	86	14	44	87
19	45	131	1	44	131
26	46	177	8	45	176
5	46	223	25	46	222
4	46	269	17	46	268
11	46	315	15	48	316
21	48	363	9	48	364
16	48	411	24	48	412
22	49	460	13	49	461
3	49	509	36	49	510
18	50	559	20	50	560
23	50	609	49	51	611
29	52	661	33	51	662
43	52	713	31	52	714
52	52	765	50	52	766
57	52	817	54	52	818
28	52	869	32	53	871
30	53	922	40	53	924
42	53	975	41	52	976
46	53	1028	56	53	1029
55	53	1081	68	53	1082
60	53	1134	44	53	1135
34	54	1188	35	53	1188
47	54	1242	38	54	1242
59	54	1296	67	54	1296
70	54	1350	58	55	1351
64	56	1406	63	55	1406
66	56	1462	39	56	1462
69	57	1519	62	58	1520

*NOTE: Numbers under Item refer to the serial number of the items in the Preliminary Test.

2. The Nature of the Tests

The tests are printed in this chapter of the study in complete form so that the reader may be given more explicit information

regarding the tests. A few obvious errors in the Latin material of the test, which escaped the proof reading are here corrected. The tests are composed of four parts, printed in two separate booklets: one for comprehension with equivalent Forms A and B, and one for the elements of language, vocabulary, forms and speech feeling (syntax) with equivalent Forms A and B. All tests are designed for pupils who have completed either one, two, three, or four years of Latin. Both forms of each test were constructed in exactly the same way and the items of the Comprehension Test or Language Elements Tests for each form are of approximately equal difficulty, as was shown by the sum of the standard deviation values in Tables VIII, XI, XIII, and XV, of this chapter.

Since Part I deals with Comprehension either Form A or Form B may be used alone or both forms may be given and the results averaged. The same is true of the Language Elements Tests. Similarly, both the Comprehension Test and the Language Elements Tests may be given to the same pupils or each one may be used alone. Because of the comparatively small number of items in the Vocabulary, Forms and Speech Feeling Tests, they are not considered as separate tests. The entire Language Elements Test is considered as one complete test.

Forty-five minutes of actual working time is to be allowed for the Comprehension Tests; likewise forty-five minutes for the Language Elements Tests, using approximately fifteen minutes for each part.

3. Directions for Administering[9]

In the period in which the test is to be given, have the desks cleared and see that each pupil is supplied with two sharpened pencils. When the desks have been cleared and the pupils are ready, say to the class: "You are going to be given a Latin test. I shall give each of you a test booklet. Do not open it or write anything on it until you are told to do so." Then distribute the test booklets.

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[9] The directions for giving the Comprehension Test, known as Part I and the Language Elements Tests, known as Parts II, III, and IV are the same. Each test has two forms, A and B.

A TEST OF FUNCTIONAL LATIN

by

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FORM A

COMPREHENSION TEST

For First, Second, Third, and Fourth Year Latin Students

Do not open this test until you are told to do so.

Fill the following blanks.

Name.....
First name Last name

Class.....

Teacher.....

School.....

City..... State.....

Date of this examination.....

Number of terms you have studied Latin.....

PART I	SCORE
A	
B	
C	
D	
Total	

PART I. COMPREHENSION

DIRECTIONS: Read the following passages carefully for thought. Do NOT attempt to write a translation of the passage. After reading each passage, read the questions which follow it. Under each question you will find five suggested answers to the question, only one of which is correct. Underline the answer you think is correct and place the key-letter of the correct answer in the blank space to the right of the question. Get all your information from the passage itself. If the information needed to answer a question is not found in the passage, underline—doesn't say.

A. Mārcus, fīlius agricolae, hōdiē est laetus, quod equum novum habet. Post lūdum is cum amīcīs ad oppidum equō vehētur. Omnēs puerī equum diū dēsīderāvērunt, sed agricolae erant maximē pauperēs. Pater Mārcī erat agricola līber et pecūniam magnam habēbat. Mārcus et amīcī magnā cum dīligentiā in lūdō student. Tandem ex lūdō properant, sed equum invenīre nōn possunt. Mārcus, īrā commōtus, patrem petit. Subitō in silvīs Mārcus suōs inimīcōs et equum videt. Amīcōs Mārcī rīdent. Agricola puerōs malōs pūnit et equum Mārcō reddit.

1. **Who was the father of Marcus?** ..... _____
   (a) slave (b) farmer (c) doesn't say (d) soldier (e) orator.
2. **What does the farmer give Marcus?** ..... _____
   (a) money (b) apple (c) horse (d) reward (e) gift.
3. **Who punishes the bad boys?** ..... _____
   (a) teacher (b) Marcus (c) Marcus' friends (d) doesn't say (e) farmer.
4. **Who will go with Marcus?** ..... _____
   (a) friends (b) father (c) slave (d) teacher (e) cousin.
5. **How do the boys conduct themselves in school this day?** ..... _____
   (a) disrespectfully (b) diligently (c) badly (d) doesn't say (e) lazily.
6. **What were all the boys wishing for?** ..... _____
   (a) money (b) apples (c) horse (d) books (e) new clothes.
7. **What reason has Marcus for feeling as he does at the beginning?** ..... _____
   (a) father is free (b) has a horse (c) has friends (d) going away (e) going to school.

8. **How does Marcus feel at the beginning of the story?** ... .
(a) sad (b) angry (c) unhappy (d) dissatisfied (e) happy.

9. **Why couldn't the boys have what they wanted?** ....
(a) too young (b) doesn't say (c) fathers poor (d) didn't behave (e) teacher objected.

10. **How does Marcus feel because of what happened after school?** ....
(a) happy (b) angry (c) sad (d) glad (e) unhappy

11. **Whom does Marcus see in the forest?** ....
(a) enemies (b) teacher (c) father (d) friends (e) cousin.

12. **Why was Marcus' father free?** ....
(a) wealthy (b) had a horse (c) was a Roman (d) doesn't say (e) was a farmer.

13. **Why did the boys take the horse?** ....
(a) play a joke (b) wanted it (c) go to forest (d) doesn't say (e) get revenge.

14. **When will Marcus do what he is planning?** ....
(a) immediately (b) morning (c) after school (d) night (e) noon.

15. **What happens when school is dismissed?** ....
(a) he goes to the forest (b) horse is stolen (c) he hurries away (d) he is detained by teacher (e) doesn't say.

16. **What is Marcus planning to do?** ....
(a) go to school (b) ride to town (c) steal a horse (d) stay home (e) doesn't say.

A. SCORE .....

B. Caesar prīmā lūce omnēs eōs quī in mōnte cōnsēderant ex superiōribus locīs in plānitiem dēscendere atque arma prōicere iussit. Quod ubi sine recūsātiōne fēcērunt passīsque palmīs prōiectī ad terram flentēs ab eō salūtem petīvērunt, cōnsōlātus cōnsurgere iussit et pauca apud eōs dē lēnitāte suā locūtus, quō minōre essent timōre, omnēs cōnservāvit mīlitibusque suīs commendāvit nē quī eōrum violārētur neu quid suī dēsīderārent. Hāc adhibitā dīligentiā ex castrīs sibi legiōnēs aliās occurrere et eās quās sēcum dūxerat in vicem requiēscere atque in castra revertī iussit eōdemque diē Lārīsam pervēnit.

1. **How did the captives respond to Caesar's command?** .....
(a) refused (b) poor spirit (c) unwillingly (d) obeyed (e) doesn't say.

2. **When did Caesar arrive at Larissa?** ....
(a) next day (b) same day (c) morning (d) noon (e) night.

3. **Where did Caesar order the captives to go?** ....
(a) level ground (b) Rome (c) prison (d) mountains (e) camp.

4. **When did he order the prisoners to move?** ....
(a) night (b) next day (c) immediately (d) at dawn (e) afternoon.

5. **How did they behave while asking the favor?** ....
(a) frightened (b) defiant (c) insolent (d) badly (e) doesn't say.

6. **Where had the captives been stationed?** ....
(a) in camp (b) on an island (c) at Larissa (d) in mountain (e) on shore.

7. **For what did the captives ask Caesar?** ....
(a) arms (b) to return home (c) money (d) soldiers (e) safety.

8. **Why were the troops captured?** ....
(a) enemies of Caesar (b) defenseless (c) small number (d) to secure arms (e) doesn't say.

9. **What did Caesar order the captives to do?** ....
(a) seize arms (b) work (c) return to camp (d) doesn't say (e) lay aside arms.

10. **Why did Caesar go to Larissa?** ....
(a) capture it (b) seek peace (c) doesn't say (d) rest (e) sell captives.

11. **What did Caesar do for the captives?** ....
(a) saved them (b) doesn't say (c) returned hostages (d) paid them (e) gave them arms

12. **What order did he give the legions he had taken with him?** ....
(a) go to Larissa (b) return to camp (c) to rest (d) leave camp (e) doesn't say.

13. **What order did Caesar give the other legions?** ....
(a) remain in camp (b) fight (c) go with him (d) to rest (e) attack the enemy.

14. **What did Caesar order the captives to do because of their behavior?** ....
(a) go to prison (b) go to camp (c) to rise (d) go on their knees (e) to die.

15. **About what did Caesar speak to the captives?** ....
(a) war (b) peace (c) desertion (d) his leniency (e) loyalty.

16. **How did the captives feel about Caesar?** .....
(a) disliked him (b) grew more afraid (c) were less afraid (d) doesn't say (e) liked him.

17. **What did Caesar ask of his soldiers?** .....
(a) to fight (b) to obey (c) to go to Larissa (d) not to harm the captives (e) nothing.

B. SCORE .....

C. Occīsō Sex. Rosciō prīmus Ameriam nūntiat Glaucia quīdam homō tenuis, lībertīnus, cliēns et familiāris istīus T. Roscī, et nūntiat domum nōn fīlī sed Capitōnis inimīcī; et cum post hōram prīmam noctis occīsus esset, prīmō dīlūculō nūntius hīc Ameriam vēnit; decem hōrīs nocturnīs sex et quīnquāgintā mīlia passuum cisiīs pervolāvit, nōn modō ut exoptātum inimīco nūntium prīmus adferret sed etiam cruōrem inimīcī quam recentissimum tēlumque paulō ante ē corpore extractum ostenderet.

1. **To whose home did the messenger bring the message?** .....
(a) Sex. Roscius (b) Glaucia (c) T. Roscius (d) doesn't say (e) Capito.

2. **Who carried the news to Ameria?** .....
(a) Sex Roscius (b) Glaucia (c) a slave (d) T Roscius (e) doesn't say.

3. **What type of man was the messenger?** .....
(a) rich (b) slave (c) criminal (d) poor (e) freeman.

4. **Who was the messenger's friend?** .....
(a) Sex. Roscius (b) Glaucia (c) T. Roscius (d) a soldier (e) a slave.

5. **To whose home was the news not brought?** .....
(a) consul's (b) slave's (c) Sex. Roscius' son's (d) Capito (e) doesn't say.

6. **How long did it take the messenger to make the trip?** .....
(a) 10 days (b) 10 hours (c) 16 hours (d) 24 hours (e) 56 hours.

7. **What was the news?** .....
(a) the consul died (b) Capito was killed (c) enemy was approaching (d) Sex. Roscius was killed (e) doesn't say.

8. **What evidences of the news did the messenger bring?** .....
(a) blood and weapon (b) piece of cloth (c) lock of hair (d) a note (e) an enemy's horse.

9. **How many miles did the messenger travel?** .....
(a) 50 (b) 100 (c) 56 (d) 25 (e) 42.

10. Where was the murder committed? ....

(a) at Rome (b) son's home (c) doesn't say (d) in a field (e) on a mountain.

11. When was the murder committed? ....

(a) previous day (b) 10 a. m. (c) recently (d) early in night (e) 6 p. m.

12. When did the messenger arrive at Ameria? ....

(a) midnight (b) dawn (c) early evening (d) 10 a. m. (e) 5 p. m.

C SCORE .....

D. Hāctenus arvōrum cultūs et sīdera caelī;
nunc tē, Bacche, canam, necnōn silvestria tēcum
virgulta, et prōlem tardē crēscentis olīvae.
Hūc, pater ō Lēnaee (tuīs hīc omnia plēna
mūneribus, tibi pampineō gravidus autumnō
flōret ager, spūmat plēnīs vīndēmia lābrīs),
Hūc, pater ō Lēnaee, venī, nūdātaque mustō
tinge novō mēcum dēreptīs crūra coturnīs.
Prīncipiō arboribus varia est nātūra creandīs.
Namque aliae nūllīs hominum cōgentibus ipsae
sponte suā veniunt campōsque et flūmina lātē
curva tenent, ut molle siler lentaeque genistae,
pōpulus et glaucā cānentia fronde salictā;
pars autem positō surgunt dē sēmine, ut altae
castaneae, nemorumque Iovī quae maxima frondet
aesculus, atque habitae Grāiīs ōrācula quercūs.

1. In whose honor does the oak tree flourish? ....

(a) Juno (b) Minerva (c) Jupiter (d) Bacchus (e) doesn't say.

2. To whom or what is Virgil singing? ....

(a) woods (b) trees (c) gods (d) Bacchus (e) Jupiter.

3. What season of the year is it? ....

(a) doesn't say (b) spring (c) summer (d) autumn (e) winter.

4. What is thriving because of Bacchus? ....

(a) trees (b) doesn't say (c) field (d) crops (e) wine.

5. What does Virgil say of the vintage? ....

(a) foams in full vats (b) not ripe (c) doesn't say (d) poor crops (e) pleasing.

6. With whose help do some trees spring up? .....

(a) Jupiter's (b) Bacchus' (c) of their own accord (d) farmer's (e) doesn't say.

7. What things show the presence of Bacchus? .....

(a) fields (b) everything (c) stars (d) trees (e) vineyards.

8. What subject is Virgil celebrating? .....

(a) doesn't say (b) shrubs (c) spring (d) festival (e) Jupiter.

9. Where are trees which come up of their own accord found? .....

(a) in fields (b) on hills (c) in forests (d) doesn't say (e) in gardens.

10. Which tree is considered the greatest? .....

(a) chestnut (b) bay oak (c) olive (d) poplar (e) willow.

11. What do the Greeks consider the oak tree? .....

(a) doesn't say (b) beautiful (c) a friend (d) good omen (e) oracle.

12. Of what did Virgil sing before? .....

(a) gods (b) doesn't say (c) olive tree (d) wine (e) stars.

13. What does Virgil ask Bacchus to do with his boots? .....

(a) doesn't say (b) wear them (c) take them off (d) give them away (e) clean them.

14. What are they to do with the new wine? .....

(a) bury it (b) pour it out (c) drink it (d) stain their legs (e) doesn't say.

15. Which tree comes up from planted seed? .....

(a) chestnut (b) doesn't say (c) broom (d) willow (e) poplar.

16. When are these seeds planted? .....

(a) spring (b) autumn (c) early (d) doesn't say (e) summer.

D. SCORE .....

A TEST OF FUNCTIONAL LATIN

by

CATHERINE M HAAGE, M. A.

Southern Junior High School

Reading, Pennsylvania

FORM B

COMPREHENSION TEST

For First, Second, Third, and Fourth Year Latin Students

Do not open this test until you are told to do so

Fill the following blanks

Name .....
First name Last name

Class .....

Teacher .....

School .....

City ..... State .....

Date of this examination .....

Number of terms you have studied Latin .....

PART I	SCORE
A	
B	
C	
D	
Total	

PART I. COMPREHENSION

DIRECTIONS: Read the following passages carefully for thought. Do NOT attempt to write a translation of the passage. After reading each passage, read the questions which follow it. Under each question you will find five suggested answers to the question, only one of which is correct. Underline the answer you think is correct and place the key-letter of the correct answer in the blank space to the right of the question. Get all your information from the passage itself. If the information needed to answer a question is not found in the passage, underline—doesn't say.

A. Ōlim Iuppiter et Mercurius, deōrum nūntius, ad urbem pulchram pervēnērunt. Quod nox aderat, hospitium petīvērunt. Incognitī ab omnibus repulsī sunt. Tandem senex, nōmine Philēmōn, et Baucis uxor, in casam suam eōs accēpērunt. Dum deī cēnant, pōcula vīnō optimō sē replēvērunt. Philēmon et Baucis terrēbantur. Deinde Iuppiter et Mercurius dīxērunt sē esse deōs. Senēs laudāvērunt et dīxērunt sē eīs praemium maximum datūrōs esse. Eīs custōdiam novī templī dedērunt. Multōs annōs Philēmōn et Baucis templum cūrābant. Post mortem ā deīs in arborēs mūtātī sunt. Ita semper vīvēbant.

1. **Where did Jupiter and Mercury go?** ..... ----------
   (a) to the fields (b) to the forest (c) to a beautiful city (d) doesn't say (e) to heaven.
2. **Who finally took them in as guests?** ..... ----------
   (a) gods (b) little girl (c) doesn't say (d) brother (e) Philemon and Baucis.
3. **What were the gods seeking?** ..... ----------
   (a) place to rest (b) money (c) wives (d) their brother (e) wine.
4. **Who was Mercury?** ..... ----------
   (a) a god (b) planet (c) son of Jupiter (d) brother of Jupiter (e) messenger of gods.
5. **What position were Philemon and Baucis given?** ..... ----------
   (a) gods (b) rulers (c) doesn't say (d) caretakers of temple (3) gardeners.
6. **How long did Philemon and Baucis hold this position?** ----------
   (a) short time (b) one year (c) many years (d) five years (e) 25 years.
7. **How did Philemon and Baucis feel because of what happened while the guests were eating?** ..... ----------
   (a) overjoyed (b) frightened (c) sad (d) angry (e) flattered.

8. **Who rewarded Philemon and Baucis after their deaths?**..... .....
(a) forests (b) planets (c) people (d) gods (e) doesn't say.

9. **Why did everyone send the gods away?**..... .....
(a) doesn't say (b) had no room (c) didn't recognize them (d) were afraid (e) had no money.

10. **What time of the day was it when the gods were sent away?**..... .....
(a) morning (b) noon (c) afternoon (d) doesn't say (e) night.

11. **What did Jupiter tell Philemon and Baucis about himself and Mercury?**..... .....
(a) they were brothers (b) they were gods (c) they were planets (d) they were messengers (e) doesn't say.

12. **What did Jupiter promise Philemon and Baucis?**..... .....
(a) everlasting life (b) great reward (c) a temple (d) happiness (e) praise.

13. **Where did the gods go after leaving Philemon's house?** .....
(a) the sky (b) home (c) the temple (d) next city (e) doesn't say.

14. **What happened to Philemon and Baucis after their death?**..... .....
(a) lived with gods (b) buried (c) changed to trees (d) made gods (e) became stars.

15. **What happened while the gods were eating?**..... .....
(a) food disappeared (b) cups filled themselves (c) gods became angry (d) doesn't say (e) gods turned into trees.

16. **Who was Jupiter?**..... .....
(a) king of gods (b) a god (c) doesn't say (d) a messenger (e) a planet.

A. SCORE .....

B. Caesar, cum Pompēi castrīs appropinquāsset, ad hunc modum aciem eius īnstrūctam animadvertit. Erant in sinistrō cornū legiōnēs duae trāditae ā Caesare initiō dissēnsiōnis ex senātūs cōnsultō; quārum ūna prīma, altera tertia appellābātur. In eō locō ipse erat Pompēius. Mediam aciem Scīpiō cum legiōnibus Syriacīs tenēbat. Ciliciēnsis legiō coniūncta cum cohortibus Hispānīs quās trāductās ab Afrāniō docuimus in dextrō cornū erant collocātae. Hās firmissimās sē habēre Pompēius exīstimābat. Reliquās inter aciem mediam cornuaque interiēcerat numerumque cohortium CX explēverat. Haec

erant mīlia XLV, ēvocātōrum circiter duo, quae ex beneficiāriīs superiōrum exercituum ad eum convēnerant; quae tōtā aciē dispertierat.

1. **Who approached Pompey's camp?**..... .....
   (a) Scipio (b) 3rd legion (c) Caesar (d) senate (e) doesn't say.
2. **Where were the soldiers from Cilicia stationed?**..... .....
   (a) left (b) right (c) rear (d) front (e) center.
3. **Where were the reserve veterans stationed?**..... .....
   (a) scattered over the field (b) right wing (c) left wing (d) center (e) rear.
4. **Who commanded the center?**..... .....
   (a) Caesar (b) Pompey (c) a general (d) doesn't say (e) Scipio.
5. **Whose battle array is described in this passage?**..... .....
   (a) Scipio's (b) Caesar's (c) Spanish (d) Pompey's (e) Cilician.
6. **Where were the troops from Syria stationed?**..... .....
   (a) rear (b) left (c) center (d) front (e) right.
7. **How many cohorts were there in line?**..... .....
   (a) 100 (b) numerous (c) 110 (d) 150 (e) 200.
8. **From whom had the commander received the first and third legions?**..... .....
   (a) Cilicians (b) Syria (c) Pompey (d) Spanish (e) Caesar.
9. **Why had the veterans joined this army rather than the other?**..... .....
   (a) to aid them (b) it was stronger (c) better leader (d) because of Pompey's kindness (e) doesn't say.
10. **Where was the third legion stationed?**..... .....
    (a) left wing (b) right wing (c) rear (d) middle (e) end.
11. **By whom had the first and third legions been assigned to this commander?**..... .....
    (a) Scipio (b) Caesar (c) doesn't say (d) Pompey (e) senate.
12. **Who had brought the troops which were attached to the legion from Cilicia?**..... .....
    (a) Afranius (b) Caesar (c) Scipio (d) Pompey (e) senate.
13. **What troops did Pompey consider the best?**..... .....
    (a) Spanish (b) Roman (c) African (d) Caesar's (e) Scipio's.

14. **Where had the commander put his less dependable troops?** ..... _____

(a) on the right (b) on the left (c) center (d) rear (e) between center and wings.

15. **About how many soldiers were there in the whole army?** ..... _____

(a) 14,000 (b) 100,000 (c) 45,000 (d) doesn't say (e) many.

16. **In what part of the army was Pompey?** ..... _____

(a) rear (b) middle (c) left wing (d) right wing (e) front.

17. **About how many soldiers were reserve veterans?** ..... _____

(a) 45 (b) all (c) half of the army (d) 2,000 (e) none.

B. SCORE _____

C. Quadriduō quō haec gesta sunt rēs ad Chrȳsogonum in castra L. Sullae Volaterrās dēfertur; magnitūdō pecūniae dēmōnstrātur; bonitās praediōrum—nam fundōs decem et trīs relīquit quī Tiberim ferē omnēs tangunt—huius inopia et sōlitūdō commemorātur; dēmōnstrant, cum pater huiusce Sex. Roscius, homō tam splendidus et grātiōsus, nūllō negōtiō sit occīsus, perfacile hunc hominem incautum et rūsticum et Rōmae ignōtum dē mediō tollī posse; ad eam rem operam suam pollicentur.

1. **At whose camp was Chrysogonus?** ..... _____

(a) Caesar's (b) Sulla's (c) Pompey's (d) Roscius' (e) doesn't say.

2. **What kind of man was the elder Roscius?** ..... _____

(a) criminal (b) happy (c) sad (d) distinguished (e) poor.

3. **What happened to the elder Roscius?** ..... _____

(a) left Rome (b) inherited farms (c) killed (d) made consul (e) imprisoned.

4. **What kind of man was the younger Roscius?** ..... _____

(a) wealthy (b) friendly (c) doesn't say (d) kind (e) stranger.

5. **What did the enemies of Roscius promise each other?** _____

(a) his property (b) secrecy (c) friendship (d) to kill him (e) doesn't say.

6. **Where were most of the farms located?** ..... _____

(a) in Volaterrae (b) in Germany (c) in Rome (d) in the country (e) near the Tiber.

7. **What did the enemies of the younger Roscius suggest doing?**..... .....
   (a) get rid of Roscius (b) rob Roscius (c) join a conspiracy (d) doesn't say (e) leave Rome.
8. **How many farms did Roscius leave?**..... .....
   (a) ten (b) three (c) thirteen (d) twenty (e) 100.
9. **What is the financial condition of the younger Roscius?**..... .....
   (a) rich (b) poor (c) beggar (d) fair (e) doesn't say.
10. **Where was the camp located?**..... .....
    (a) Rome (b) near the Tiber (c) Volaterrae (d) in Africa (e) in a valley.
11. **Who was the enemy of the younger Roscius?**..... .....
    (a) Sulla (b) his slave (c) doesn't say (d) Volaterrae (e) everyone.
12. **Who was Chrysogonus?**..... .....
    (a) friend of Sulla (b) father of Roscius (c) rich man (d) slave (e) doesn't say.

C. SCORE .....

D. Frīgidus agricolam sīquandō continet imber
multa forent quae mox caelō properanda serēnō
mātūrāre datur: dūrum prōcūdit arātor
vōmeris obtūnsī dentem, cavat arbore lintrēs,
aut pecorī signum aut numerōs impressit acervīs
Exacuunt aliī vāllōs furcāsque bicornīs,
atque Amerīna parant lentae retinācula vītī.
Nunc facilis rubeā texātur fiscina virgā,
nunc torrēte ignī frūgēs, nunc frangite saxō.
Quippe etiam fēstīs quaedam exercēre diēbus
fās et iūra sinunt: rīvōs dēdūcere nūlla
rēligiō vetuit, segetī praetendere saepem,
īnsidiās avibus mōlīrī, incendere veprēs,
bālantumque gregem fluviō mersāre salūbrī.
Saepe oleō tardī costās agitātor asellī
vīlibus aut onerat pōmīs, lapidemque revertēns
incūsum aut ātrae māssam picis urbe reportat.

1. **In what kind of weather are these things done?**..... .....
   (a) sunshine (b) snow (c) rain (d) sleet (e) doesn't say.
2. **How many prongs does the fork have?**..... .....
   (a) four (b) two (c) five (d) many (e) three.

3. **Is the ploughman pleased with the weather?**..... .....
(a) yes (b) no (c) perhaps (d) sometimes (e) doesn't say.

4. **What does the man do with the plough?**..... .....
(a) ploughs (b) plants seed (c) cleans it (d) doesn't say (e) sharpens point.

5. **What does he do with the tree?**..... .....
(a) prunes it (b) cuts it down (c) makes boats (d) saws it (e) sprays it.

6. **What does he do with the cattle?**..... .....
(a) drives them (b) marks them (c) kills them (d) feeds them (e) doesn't say.

7. **What does he do to the grain?**..... .....
(a) soaks it (b) beats it (c) cuts it (d) roasts it (e) plants it.

8. **What could keep a farmer from working in the fields in good weather?**..... .....
(a) religion (b) war (c) laziness (d) sickness (e) his family.

9. **What does the farmer make for the birds?**..... .....
(a) houses (b) traps (c) doesn't say (d) bird bath (e) nest.

10. **What does he do with the dead brambles?**..... .....
(a) cuts them (b) carries them away (c) doesn't say (d) burns them (e) buries them.

11. **What kind of a donkey does the farmer have?**..... .....
(a) old (b) young (c) good (d) lazy (e) doesn't say.

12. **With what does he load the donkey?**..... .....
(a) wood (b) grain (c) packages (d) weapons (e) apples.

13. **Where does the farmer get pitch?**..... .....
(a) in the country (b) in the forest (c) in the city (d) doesn't say (e) from a farmer.

14. **Where will he use the trellis work and stakes?**..... .....
(a) doesn't say (b) in forest (c) in vineyard (d) in field (e) in garden.

15. **What does he do about the creek?**..... .....
(a) builds a fence (b) draws it off (c) doesn't say (d) fishes (e) wades in it.

16. **Why do the sheep bleat?**..... .....
(a) shorn (b) lost (c) hungry (d) cold (e) plunged into river.

D. SCORE .....

A TEST OF FUNCTIONAL LATIN

by

CATHERINE M. HAAGE, M. A.

Southern Junior High School

Reading, Pennsylvania

FORM A

VOCABULARY FORMS SPEECH FEELING TESTS

For First, Second, Third, and Fourth Year Latin Students

Do not open this test until you are told to do so.

Fill the following blanks.

Name.....
First name Last name

Class.....

Teacher.....

School.....

City..... State.....

Date of this examination.....

Number of terms you have studied Latin.....

PART	SCORE
II	
III	
IV	
Total	

PART II. VOCABULARY

DIRECTIONS: In each sentence below the blank space indicates that a word is missing. One of the words in the next line is the missing word. Underline the word which would best fill the blank and place the keyletter of the word you select in the blank space at the end of the sentence.

EXAMPLE: **Vir_____patriam amat**..... c

(a) novus (b) gravis (c) bonus (d) perītus (e) pār.. .....

---

1. Gladiō et sagittīs patriam meam_____..... .....

(a) prohibeō (b) clāmō (c) dēfendō (d) doceō (e) cupiō.

2. Lesbia,_____agricolae, rosās vidēbat..... .....

(a) victōria (b) aqua (c) arbor (d) mīles (e) fīlia.

3. Populus mūris_____Rōmam contrā barbarōs mūnīverat..... .....

(a) līberīs (b) altīs (c) vērīs (d) cupidīs (e) fortibus.

4. _____maria lītora habent..... .....

(a) facilia (b) omnia (c) cupida (d) gravia (e) fidēlia.

5. Sōlus et gladiō_____gentem oppugnāvit..... .....

(a) tāctus (b) intellēctus (c) armātus (d) iūnctus (e) receptus.

6. Diēs est spatium vīgintī quattuor_____..... .....

(a) hōrārum (b) adventuum (c) rērum (d) tubārum (e) timōrum.

7. Agricola vidit līberōs in vīllam_____..... .....

(a) putāre (b) venīre (c) docēre (d) capere (e) posse

8. Brūtus_____interfēcit..... .....

(a) sē (b) nōs (c) tē (d) mē (e) vōs.

9. Cīvitās Hannibalī imperāvit_____Rōmānīs resisteret..... .....

(a) nisi (b) potius (c) ita (d) ut (e) tam.

10. Mīlitēs, quī ā pugnā aberant, integrī et_____erant..... .....

(a) tantī (b) tardī (c) incolumēs (d) brevēs (e) cēterī.

11. _____eius modī vincī nōn possunt..... .....

(a) aurēs (b) custōdēs (c) faucēs (d) aedēs (e) sēdēs.

12. Ut pācem_____, Cīneam lēgātum Rōmam mīsit..... .....

(a) complēret (b) verteret (c) cerneret (d) vāstāret (e) cōnstitueret.

13. **Ōrātiō eius, quam_____, mihi nōn satisfacit**.... .....
(a) putāvī (b) nāvigāvī (c) mūnīvī (d) lēgī (e) pressī.

14. **Tempus iam est domum_____**..... .....
(a) mētīrī (b) expedīre (c) incitāre (d) hortārī (e) proficīscī.

15. **Germānī multum ā cōnsuētūdine Gallōrum_____** .....
(a) aperiunt (b) pācant (c) dēdūcunt (d) praebent (e) differunt.

16. **Captīvōs vinculīs_____in Italiam mīsit**..... .....
(a) accessōs (b) impedītōs (c) āmissōs (d) rēctōs (e) spectātōs.

17. **Cum Paulus ex Graeciā vēnisset, per viās urbis_____**..... .....
(a) accūsāvit (b) admonuit (c) crēvit (d) triumphāvit (e) exercuit.

18. **Per omnēs gradūs cursūs honōrum ad_____vir prōgressus est**..... .....
(a) dīligentiam (b) incendium (c) moenia (d) cōnsulātum (e) voluptātem.

19. **Ob illam_____et peditēs et equitēs conveniēbant**..... .....
(a) aquilam (b) aestātem (c) sōlem (d) causam (e) fossam.

20. **Ita bene rēs pūblica ab eō administrāta erat ut omnēs eī_____**..... .....
(a) favērent (b) vīverent (c) nocērent (d) crēscerent (e) tacērent.

21. **_____fīlium suum interfēcit, cōnsul nōn culpātus est**..... .....
(a) hinc (b) vērum (c) quoad (d) quamquam (e) proinde.

22. **Cīvēs equum_____**..... .....
(a) perfēcērunt (b) satisfēcērunt (c) confēcērunt (d) interfēcērunt (e) defēcērunt.

23. **_____ē corpore līberātae ad īnferōs dēscendisse dīcuntur**..... .....
(a) hostēs (b) animae (c) carmina (d) aurae (e) bracchia.

24. **_____sunt quī contendant**..... .....
(a) tantī (b) angustī (c) sōlī (d) brevēs (e) acūtī

25. **Somnus_____mīlitibus fuit grātus**..... .....
(a) dubiīs (b) externīs (c) plēnīs (d) togātīs (e) dēfessīs.

26. **_____reī pūblicae causā cōnstitūtum est**..... .....
(a) quia (b) fortasse (c) quandō (d) utinam (e) prae.

27. Amōre_____numquam fruēbantur..... .....

(a) lūdōrum (b) tēctōrum (c) parentum (d) imāginum (e) quiētum.

28. Ita_____erat frōns montis ut eum ascendere nōn possēmus..... .....

(a) alba (b) ferōx (c) cita (d) praeceps (e) vēlōx.

29. Is quoque dux clārus esse_____..... .....

(a) dēsīderat (b) invidet (c) placet (d) probat (e) servit.

30. Pārēbitisne_____vestrīs?..... .....

(a) ōrnāmentīs (b) artibus (c) gregibus (d) sēminibus (e) iūdicibus.

31. _____est, nōn fortis, quī puerōs occīdit..... .....

(a) mātūrus (b) obscūrus (c) īnsignis (d) crūdēlis (e) dignus.

32. Ante_____deōs et deās adōrāvimus..... .....

(a) aurum (b) ārās (c) herbās (d) faciēs (e) pietātem.

33. Itaque ad omnēs_____subsidia comparābat.... .....

(a) cāsūs (b) mōrēs (c) mortēs (d) turrēs (e) mentēs.

34. Lēgātus in_____coniectus sē interfēcit..... .....

(a) divitiās (b) foedus (c) carcerem (d) gregem (e) mūnicipium.

35. Omnēs_____sē patriam dēfēnsūrōs esse..... .....

(a) pavent (b) vinciunt (c) vovent (d) pingunt (e) turbant.

36. Adulēscēns_____commōtus grātiās ēgit..... .....

(a) fluviō (b) pinnā (c) foliō (d) gaudiō (e) sepulchrō.

37. _____multitūdō hostium in oppidum convenīret, Caesar bellum parābat..... .....

(a) heu (b) dēmum (c) antequam (d) secus (e) ecce.

38. Fluvius in mare_____..... .....

(a) haeret (b) fluit (c) graditur (d) latet (e) rīdet.

39. Nihil_____patriā esse dēbet..... .....

(a) improbius (b) incrēdibilius (c) cārius (d) stultius (e) acerbius.

40. _____in vīllam, ubi cēna parāta est..... .....

(a) vehite (b) implicāte (c) tenēte (d) intrāte (e) sonāte.

PART II. SCORE .....

PART III. FORMS

DIRECTIONS: In this test you will find one word or phrase underlined in each sentence. The underlined word is in a form which answers one of the questions you will find below. Each question has a letter before it. In the blank space at the end of each sentence PRINT the letter which shows the question answered by the underlined word. If the underlined word or phrase does not answer any of the questions, PRINT letter K in the blank.

In the example, puellam is the underlined word, and tells whom the boy saw. Therefore the letter C is printed in the blank.

EXAMPLE: **Puer puellam videt**..... C

QUESTIONS

A. From whom or from what is a certain thing freed, taken, asked, etc.?
B. For whose benefit or to whom is something done, given, shown, etc.?
C. Whom or what does some one see, say, take, etc.?
D. Where does something happen?
E. Who or what does something?
F. By whom is something done?
G. In what manner or how is something done?
H. Because of what or on account of what does something exist or happen?
I. For what purpose or for the sake of what is something done, chosen, etc.?
J. How far did someone or something travel?
K. No question.

---

1. **Nōnne vocāris ā fīliō tuō?**..... .....
2. **Propter victōriās fāma Rōmānōrum erit nōta**..... .....
3. **Ex omnī cūrā paucī servātī sunt**..... .....
4. **Cōnsul domum humilem ēmit in quā nātus est**..... .....
5. **Cīvēs fortiter contendent**..... .....
6. **In agrīs puellae errāre nōn dēbent**..... .....
7. **Ille fluvius trīgintā pedēs per urbem flūxit**..... .....
8. **Procul vīllam pulchram vidētis**..... .....
9. **Plēbs lēgēs scrīptās postulāvērunt**..... .....
10. **Postquam liber ēditus est, auctor maximōs honōrēs accēpit**..... .....
11. **Locum castrīs dēlēgit**..... .....
12. **Dux, servitūte līberātus, grātiā mōtus est**..... .....
13. **Quīdam, quī Rōmae habitābat, erat aeger**..... .....
14. **Cum gaudiō cōnsilia eōrum probāvimus**..... .....
15. **A nobīs quaesīvit quō modō multōs annōs vītam sustinēre possēmus**..... .....

16. Dominō meō semper humiliter serviō ....
17. Ob mare turbātum quiētī nōs dēdere nōn poterāmus .. ..
18. Initium fugae ab explōrātōre nūntiātum esse dīxērunt .....
19. Tribūnī sē ita bene dēfendēbant ut eōs commovēre nōn possēmus..... .....
20. Cotīdiē in forum discendī causā intrēmus..... .....
21. Captīvī miserī ad prīncipem trahēbantur..... .....
22. Explōrātor Rōmānīs adversam fortūnam nūntiat..... .....
23. Arbitrārisne tē ad dormiendum hūc vēnisse?..... .....
24. Adventus rēgis sociīs spem auxit..... .....
25. A proeliō multa mīlia passuum fūgērunt..... .....

PART III. SCORE .....

PART IV. SPEECH FEELING TEST

DIRECTIONS: Examine each sentence carefully for the thought to see whether it is perfectly correct. If you feel it is not correct find out where and what the mistake is. Then look at the next line and underline the one of the five choices which will correct the sentence. The correction you make must not change the meaning of the sentence.

Look at the first example. Is the sentence correct? It is, so the choice correct is underlined, and its key letter c is put in the blank.

Look at the second example. Amat ought to be changed to amant to agree with its subject puellae; so amant is underlined, and the key letter b is put in the blank.

In the third example you see that puella needs the preposition cum with it, so cum puella is underlined and the key letter a is put in the blank.

In the fourth example the sentence is complete without ad, so omit ad is underlined and the key letter c is put in the blank.

EXAMPLES:

1. Agricola agrum arat..... c .....

(a) ager (b) agricolam (c) correct (d) arant (e) in agrum.

2. Puellae columbās amat..... b .....

(a) correct (b) amant (c) columbae (d) puellam (e) suās columbās.

3. Māter puellā venit..... a .....

(a) cum puellā (b) veniunt (c) correct (d) puellīs (e) propter puellā.

4. Ad puerō pecūniam dedit c

(a) correct (b) puerum (c) omit ad (d) pecūniae (e) prope for ad.

---

1. Alexander ā sagittā vulnerātus est .....

(a) correct (b) cum sagittā (c) omit ā (d) sunt (e) sagittae.

2. Puella multōs sorōrēs habet .....

(a) multās (b) puellae (c) habent (d) correct (e) sorōrōs.

3. In eō tempore mīlitēs sē dēdidērunt .....

(a) mīlitum (b) tempori (c) omit in (d) correct (e) sibi.

4. Ad Rōmam iter facere iussus est .....

(a) Rōmae (b) correct (c) omit ad (d) itinerem (e) iussī.

5. Rēx rēgnō frātrem suum pepulit .....

(a) rēgnat (b) frātrī (c) correct (d) rēge (e) ē rēgnō.

6. Vir fīliam suam et fēminā videt .....

(a) vident (b) fīlia (c) correct (d) fēminam (e) virī.

7. Dux cōpiīs victōriam nūntiāverit .....

(a) cōpiae (b) ad cōpiās (c) victōria (d) correct (e) ducem.

8. Hic cōnsul decem annīs mīles fuerat .....

(a) Mīlitēs (b) decimīs (c) annōs (d) correct (e) hunc.

9. Cīvēs fuerant inimīcī .....

(a) inimīcōs (b) fuerat (c) correct (d) cīvī (e) inimīcīs.

10. Senātor, quī vocō, abest .....

(a) quis (b) vocās (c) quem (d) absunt (e) correct.

11. Urbs cūrā expugnāta est .....

(a) urbem (b) expugnatus (c) correct (d) ā cūrā (e) cum cūrā.

12. Exīstimātisne hanc lēgem est aequam? .....

(a) hunc (b) aequus (c) aequa (d) esse (e) correct.

13. Neque praesidium neque auxilium nostrīs sociīs dabantur .....

(a) ā nostrīs (b) dabātur (c) praesidiō (d) cum nostrīs (e) correct.

14. Labiēnum exercitum praefēcit .....

(a) Labiēnus (b) exercituī (c) correct (d) Labiēnō (e) exercitus.

15. Oportet mē hoc dīceret..... .....

(a) mihi (b) dīcō (c) correct (d) ut hoc (e) dīcere.

16. Rōmānī erant hominēs maximae virtūtī..... .....

(a) maximī (b) correct (c) virtūte (d) erat (e) virtūtis.

17. Hic vir duōbus pedēs altior est..... .....

(a) pede (b) altiōrēs (c) correct (d) duōs (e) pedibus.

18. Pyrrhus, cum Rōmānī victī erant, pācem cōnfirmāre volēbat..... .....

(a) erat (b) omit cum (c) correct (d) essent (e) Rōmānīs.

19. Portās clausit, nē oppidānī iniūriam accipiēbant..... .....

(a) acciperent (b) iniūriās (c) porta (d) omit nē (e) correct.

20. Mīles in patriam stīpendiō causā reverterat..... .....

(a) omit in (b) stīpendī (c) ad stīpendiō (d) correct (e) mīlitēs.

21. Imperātor ad flūmen mīlitēs mīsit, quī pontem facere. .....

(a) flūminem (b) mīles (c) correct (d) quem (e) facerent.

22. Quīdam rēx cum uxōre multōs annōs Rōmam habitāverat..... .....

(a) omit cum (b) annīs (c) in Rōmam (d) Rōmae (e) correct.

23. Cupidus pecūniam, senem occīdit..... .....

(a) cupidam (b) pecūniae (c) senex (d) correct (e) pecūniā.

24. Agrī ignī vāstātīs, magna erat inopia frūmentī..... .....

(a) ignō (b) agrōs (c) erant (d) correct (e) agrīs.

25. Dominus vīllam domicilium ēmit..... .....

(a) ad vīllam (b) in domiciliō (c) dominum (d) domiciliō (e) correct.

26. Utinam istud ex corde dīcēbās!..... .....

(a) dīcerēs (b) omit ex (c) ut for utinam (d) correct (e) cordī.

27. Nōlīte properāre..... .....

(a) properāret (b) ut properāvisset (d) correct (d) properāvit (e) properābat.

28. Paenitet mē huius factō..... .....

(a) mihi (b) factum (c) hoc (d) correct (e) factī.

29. Tibi līterās docuī..... .....

(a) tu (b) līterae (c) tē (d) correct (e) ad tē.

30. Velim mihi ignōscis..... .....

(a) ignōscere (b) correct (c) ignōscās (d) mē (e) ignōscēs.

PART IV. SCORE .....

A TEST OF FUNCTIONAL LATIN

by

CATHERINE M. HAAGE, M. A

Southern Junior High School

Reading, Pennsylvania

FORM B

VOCABULARY FORMS SPEECH FEELING TESTS

For First, Second, Third, and Fourth Year Latin Students

Do not open this test until you are told to do so.

Fill the following blanks.

Name.....
First name Last name

Class.....

Teacher.....

School.....

City..... State.....

Date of this examination.....

Number of terms you have studied Latin.....

PART	SCORE
II	
III	
IV	
Total	

PART II. VOCABULARY

DIRECTIONS: In each sentence below the blank space indicates that a word is missing. One of the words in the next line is the missing word. Underline the word which would best fill the blank and place the keyletter of the word you select in the blank space at the end of the sentence.

EXAMPLE: **Vir_____patriam amat**..... c

(a) novus (b) gravis (c) bonus (d) perītus (e) pār.

---

1. Nauta ad_____magnam nāvigābit..... .....

(a) fortūnam (b) cōpiam (c) grātiam (d) īnsulam (e) lūnam.

2. Puella parva_____pecūniam dedit..... .....

(a) puerō (b) proeliō (c) silvae (d) hiemī (e) sōlī.

3. _____prōvinciae in mare currunt..... .....

(a) inopiae (b) frātrēs (c) flūmina (d) dentēs (e) gladiī

4. Duodecim lictōrēs ante_____veniebant..... .....

(a) vulnus (b) oculum (c) pecūniam (d) cōnsulem (e) vōcem.

5. _____erat māter eōrum puerōrum?..... .....

(a) quis (b) cūr (c) quō (d) ego (e) quid.

6. _____mīlitēs capī et ad mortem trahī..... .....

(a) dubitābō (b) iubēbō (c) incipiam (d) vītābo (e) pōnam.

7. Pīlum longius_____gladius erat..... .....

(a) sine (b) quod (c) quam (d) posteā (e) nunc.

8. Hōc proeliō factō, victī sub_____mittentur..... .....

(a) iugum (b) initium (c) honōrem (d) sententiam (e) opus.

9. In illō rēgnō multōs annōs_____..... .....

(a) occupāvit (b) dīxit (c) posuit (d) fēcit (e) mānsit.

10. Elephantus caput_____quam equus habet..... .....

(a) miserius (b) māius (c) certius (d) minus (e) longius.

11. Gallī Germānīs_____erant..... .....

(a) ācrēs (b) levēs (c) fortēs (d) propinquī (e) maritimī.

12. Dum Cerēs fīliam āmissam petit, multī sunt_____——agricolārum..... .....

(a) carrī (b) ventī (c) nātiōnēs (d) salūtēs (e) labōrēs.

13. Ob maximam virtūtem hic vir plūrima_____ accēpit..... .....

(a) mentēs (b) cōnsilia (c) spēs (d) praemia (e) pugnās.

14. In eō bellō_____nōtī erant virī sanguinis nōbilis .....

(a) priusquam (b) paulātim (c) praesertim (d) frūstrā (e) paene.

15. Quod agrī_____erant, is locus pugnae idōneus vidēbātur..... .....

(a) plānī (b) aeternī (c) atrōcēs (d) improbī (e) vīvī.

16. _____sunt arma fēminārum..... .....

(a) iūdicēs (b) moenia (c) ōrae (d) lūmina (e) lacrimae.

17. Puerī_____sed hodiē sunt tardī..... .....

(a) dolent (b) properant (c) saeviunt (d) fundunt (e) canunt.

18. Rōmānī ad templa_____portāvērunt..... .....

(a) spīcula (b) turbās (c) dōna (d) cōnūbia (e) nūbēs.

19. Incolae mōribus_____et lēgibus similēs sunt.. .....

(a) solidīs (b) piīs (c) lentīs (d) antīquīs (e) raucīs.

20. Septem_____hostēs in fugam coniēcērunt,..... .....

(a) pontibus (b) diēbus (c) rīpīs (d) imperiīs (e) rēbus.

21. Cum lēgātus rēgis Rōmam pervēnisset, in_____ intrōductus est..... .....

(a) vēstīgium (b) cūriam (c) somnum (d) sortem (e) pretium.

22. Neptūnus, deus aquārum, Oceanum_____..... .....

(a) simulābat (b) expetēbat (c) iaciēbat (d) iuvābat (e) habitābat.

23. Tribūnī plēbis posteā_____factī sunt..... .....

(a) dēfessī (b) tardissimī (c) brevissimī (d) potentissimī (e) apertī.

24. Cōpia frūmentī mīlitibus facile_____..... .....

(a) fugiētur (b) augēbitur (c) ōrābitur (d) intellegētur (e) arbitrābitur.

25. Lēgātī bellum indīcendī causā ad fīnēs hostium īre _____..... .....

(a) favēbant (b) solēbant (c) iacēbant (d) habitābant (e) pūniēbant.

26. Duō cōnsulēs aequae potestātis prō ūnō rēge_____ sunt..... .....

(a) vēnditī (b) vexātī (c) repudiātī (d) creātī (e) praetermissī.

27. **Aemilius cupidior secundae fortūnae pūblicae quam _____suae erat**..... .....

(a) nūminis (b) varietātis (c) fēlīcitātis (d) senis (e) virginis.

28. **Gladium_____et pectus suum perfōdit**..... .....

(a) fūdit (b) frēgit (c) rapuit (d) intrāvit (e) appāruit.

29. **Iūdex_____exspectāvit**..... .....

(a) caelum (b) doctrīnās (c) moenia (d) laetitiam (e) testēs.

30. **Pyrrhus nōn scīvit_____plus amīcōrum an inimīcōrum Rōmae haberet**..... .....

(a) ergō (b) quō (c) num (d) quasi (e) utrum.

31. **Pārendō puerī Rōmānī aliīs imperāre_____**..... .....

(a) errābant (b) perdēbant (c) invidēbant (d) discēbant (e) cōnsīderābant.

32. **_____pars classis dēlēbitur**..... .....

(a) usquam (b) mox (c) velut (d) ceu (e) dōnec.

33. **Incolae_____Galliae Germānōs timēbant**..... .....

(a) tardae (b) tōtius (c) ūllīus (d) ferae (e) alicuius.

34. **Parvīs manibus serpentēs_____**..... .....

(a) strūxit (b) spīrāvit (c) horruit (d) prehendit (e) memorāvit.

35. **Iasōn domō prōgreditur ut vellere_____potiātur**. .....

(a) laetō (b) fēlicī (c) turbidō (d) aureō (e) validō.

36. **Clāmor_____orītur et tumultus tōtam urbem pervādit**..... .....

(a) saucius (b) pinguis (c) castus (d) ferreus (e) ingēns.

37. **Cotīdiē imperātor equitēs ex castrīs_____iussit**. .....

(a) ēgredī (b) prōmittere (c) flēre (d) fulgēre (e) vetāre.

38. **_____cūr ille mē secūtus sit**..... .....

(a) moror (b) polliceor (c) orior (d) mīror (e) loquor.

39. **Nūllum perfugium cīvibus_____quam domus erat**..... .....

(a) saevius (b) sacrius (c) vāstius (d) inānius (e) hūmidius.

40. **Imperātor_____gladiātōrum spectandī causā mānsit**..... .....

(a) certāmina (b) habēnās (c) nepōtēs (d) simulācra (e) undās.

PART II. SCORE .....

PART III. FORMS

DIRECTIONS: In this test you will find one word or phrase underlined in each sentence. The underlined word is in a form which answers one of the questions you will find below. Each question has a letter before it. In the blank space at the end of each sentence PRINT the letter which shows the question answered by the underlined word. If the underlined word or phrase does not answer any of the questions, PRINT letter K in the blank.

In the example, puellam is the underlined word, and tells whom the boy saw. Therefore the letter C is printed in the blank.

EXAMPLE: **Puer puellam videt**..... **C**

QUESTIONS

A. About, in behalf of, or without what or whom is something done, said, discovered, etc.?
B. From whom or from what is a certain thing freed, taken, asked, etc.?
C. Whom or what does someone see, say, take, etc.?
D. When does a certain thing take place?
E. In what direction did something or someone move?
F. Whose circumstances or property are mentioned?
G. With whom does someone go or do something?
H. For how long a time does someone fight, live, etc.?
I. In what respect is something true?
J. By what means is something done?
K. No question.

SENTENCES

1. **Audīvimus cōpiās ex illīs fīnibus dēdūcī**..... .....
2. **Sulla cum exercitū urbem occupāvit**..... .....
3. **Equitēs nostrī Gallōs quīnque hōrās sustinuērunt**.... .....
4. **Nāvis ad īnsulam tempestāte agēbātur**..... .....
5. **Tōtam aestātem magnam māteriae cōpiam exstruēbāmus**..... .....
6. **Nostrī lēgātī cum hostibus pācem cōnfirmāvērunt**... .....
7. **Eius vīlla est multō māior quam tua**..... .....
8. **Mulier mēcum prōgredīētur**..... .....
9. **Hīc trēs diēs mānsērunt, quod cibō prīvātī erant**..... .....
10. **Virī integrī sine timōre pontem appropinquābant**.... .....
11. **Semper, legiōnēs, prō patriā pugnāte**..... .....
12. **Mercātor ab rēgīnā praemium accēpit**..... .....
13. **Fossā, quae octō pedes alta est, dēfendēmur**..... .....
14. **Possuntne sōl et lūna eōdem tempore vidērī?**..... .....
15. **Omnēs revertērunt Rōmam, ubi rēx eōs exspectāvit**.. .....

16. **Inimīcōs nostrōs amāre dēbēmus**..... .....
17. **Animī eārum verbīs captīvōrum incitātī erunt**..... .....
18. **Familiārem meum dē hīs crīminibus cōnsuluī**..... .....
19. **Frātris mortem ulcīscī voluit**..... .....
20. **Puer erat celer pede sed studiīs ab omnibus superā-bātur**..... .....
21. **Hannibal itinera mūnīvit ut multōs exitūs habēret**.... .....
22. **Iūra aequa hominēs bonōs nōn impediunt**..... .....
23. **Domum venīre dēbēs**..... .....
24. **Tertiā hōrā moenia relinquēs**..... .....
25. **Frātrēs celeritāte pedum omnēs superābant**..... .....

PART III. SCORE .....

PART IV. SPEECH FEELING TEST

DIRECTIONS: Examine each sentence carefully for the thought to see whether it is perfectly correct. If you feel it is not correct find out where and what the mistake is. Then look at the next line and underline the one of the five choices which will correct the sentence. The correction you make must not change the meaning of the sentence.

Look at the first example. Is the sentence correct? It is, so the choice correct is underlined, and its key letter c is put in the blank.

Look at the second example. Amat ought to be changed to amant to agree with its subject puellae; so amant is underlined, and the key letter b is put in the blank.

In the third example you see that puella needs the preposition cum with it, so cum puellā is underlined and the key letter a is put in the blank.

In the fourth example the sentence is complete without ad, so omit ad is underlined and the key letter c is put in the blank.

EXAMPLES:

1. **Agricola agrum arat**..... c
   (a) ager (b) agricolam (c) correct (d) arant (e) .....
   in agrum.
2. **Puellae columbās amat**..... b
   (a) correct (b) amant (c) columbae (d) puellam .....
   (e) suās columbās.
3. **Māter puellā venit**..... a
   (a) cum puellā (b) veniunt (c) correct (d) puellīs
   (e) propter puella.
4. **Ad puerō pecūniam dedit**..... c
   (a) correct (b) puerum (c) omit ad (d) pecūniae .....
   (e) prope for ad.

1. **Causae bellī paucae erat**..... .....
(a) cạusa (b) erant (c) correct (d) bellō (e) paucī.

2. **Puerī nauta, nostrum amīcum, vidēbant**..... .....
(a) correct (b) amīcōs (c) nautam (d) vidēbantur (e) nostrōs.

3. **Vocā Mārce, patrem tuum**..... .....
(a) vocāris (b) Mārcum (c) correct (d) pater (e) Mārcō.

4. **Pater meus in urbe vēnit**..... .....
(a) ad urbe (b) omit in (c) correct (d) urbem (e) urbis.

5. **Mārcus explōrātōrēs dūcō potest**..... .....
(a) ducem (b) explōrātōrī (c) dūcere (d) correct (e) possunt.

6. **Nūntius, cum perīculō commōtus, fugit**..... .....
(a) omit cum (b) correct (c) ā perīculō (d) nūntium (e) commōtī.

7. **Agrīcola aquam portam portābit**..... .....
(a) portīs (b) ad portam (c) agricolam (d) correct (e) aqua.

8. **Patre tuō vocāris**..... .....
(a) patrī (b) vocat (c) pater (d) ā patre (e) correct.

9. **Mātrēs putant līberī vạlēre**..... .....
(a) valērī (b) māter (c) correct (d) valeō (e) līberōs.

10. **Hostēs in silvīs retinēbantur**..... .....
(a) silvās (b) ad silvīs (c) cum silvīs (d) correct (e) silvae.

11. **Gladiōs ūtī nōn poterant**..... .....
(a) ūtere (b) gladiīs (c) ūsī (d) gladiōrum (e) correct.

12. **Pars exercitum in castrīs magnīs mānserat**..... .....
(a) mānserant (b) omit in (c) exercitūs (d) correct (e) partēs.

13. **Iussērunt explōrātōrēs prōcēdant**..... .....
(a) ut nōn (b) prōcēdere (c) correct (d) explōrātor (e) prōcēdent.

14. **Illī in mōribus et lēgibus similēs sunt**..... .....
(a) correct (b) similī (c) est (d) omit in (e) illōs.

15. **Ducēs trēs diēs mānsērunt, quod cūrās līberātī erant**.. .....
(a) līberātōs (b) correct (c) ut cūrās (d) ad trēs (e) cūrīs.

16. **Est puella magnā pulchritūdinem**..... .....
(a) magnae (b) puellam (c) pulchritūdine (d) magnō (e) correct.

17. Hoc foedus ad hostibus grātissimum erat..... _____

(a) hostēs (b) grātissimus (c) omit ad (d) hic (e) correct.

18. Ducēs mīlitibus imperāvērunt ut hostium impetum sustinēre..... _____

(a) mīlitum (b) sustinēbant (c) correct (d) mīlitēs (e) sustinērent.

19. Caesar exspectāvit dum nāvēs convēnērunt..... _____

(a) exspectāvisset (b) omit dum (c) correct (d) convenīrent (e) Caesarī.

20. Līberī tam dēfessī sunt nē labōrent..... _____

(a) dēfessōs (b) ut nōn for nē (c) correct (d) labōrant (e) omit nē.

21. Sī amīcī meī aderant, auxilium mittere nōn necesse esset..... _____

(a) amīcōs (b) adessent (c) auxilia (d) essent (e) correct.

22. Patria mihi vītam cārior est..... _____

(a) quam vītam (b) patriam (c) correct (d) mē (e) vītā.

23. Cum territī erant, salūtem in fugā petēbant..... _____

(a) essent (b) salūs (c) peterent (d) fugam (e) correct.

24. Līberī patrem pāreant..... _____

(a) līberōs (b) correct (c) patre (d) ad patrem (e) patrī.

25. Scīsne quot familiae cūrantur?..... _____

(a) familiās (b) omit quot (c) correct (d) omit-ne (e) cūrentur.

26. Senem iūdex creāvērunt..... _____

(a) senex (b) iūdicēs (c) correct (d) iūdicem (e) senis.

27. Duae legiōnēs ā lēgātō relinquendae sunt, quae praesidiō sint..... _____

(a) legiōnae (b) quī (c) correct (d) praesidium (e) omit ā.

28. Vincula eius solvit quō facilius certāmen incipiēbat... _____

(a) vinculō (b) certāminem (c) facilium (d) inciperet (e) correct.

29. Erat homō laude dignus..... _____

(a) laudis (b) dignō (c) ā laude (d) correct (e) laudī.

30. Interim cotīdiē Caesar frūmentum flagitāret..... _____

(a) flagitāre (b) frūmentō (c) Caesarī (d) correct (e) frūmentī.

PART IV. SCORE

When each pupil has received a copy of the test booklet, say: "Write your name, age, class and other information called for on the front page." When the pupils have finished writing this information, continue: "I shall read the instructions for taking the test to you. Listen carefully, because no questions may be asked after the test has been started." Read the instructions. Then say: "The directions for the test you will find when you turn to the next page. Read the directions carefully and proceed to answer the questions. There is a time limit for the test. If you finish before the time is up, go over the test and make sure your answers are correct. Ask no questions after the examination has begun. When I say 'Begin' turn to Page 2 of the test, read the directions carefully and start. Work rapidly but do not hurry. You will be allowed 45 minutes to complete the test. If you finish before the time is up, look over your work and correct any mistakes you have made." Make a note of the time and then say, "Begin."

At the end of 45 minutes, say, "Stop! Close your booklets." Then have the first pupil in each row collect the booklets immediately.

While the pupils are taking the test, the examiner should make sure that pupils are exerting their best efforts on the test, and that they are proceeding with the test according to directions. Be sure that no questions are asked or answered during the test.

4. Directions for Scoring [10]

In order to score a test, adjust the key so that the answers are opposite the corresponding items on the test. It is suggested that the key be folded or cut in strips along the black lines.

The tests are objective in scoring, and by following the keys carefully, a clerk or reliable student may score the tests. It is recommended, however, that Latin teachers score their own papers as this facilitates the use of the results for diagnostic purposes.

In scoring the papers place a check mark in colored pencil in the right margin opposite each correct answer.

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[10] The correct answers to all test items are given in answer keys which have been prepared for each form. (See pp. 133 to 144.)

The same value is given to all items. The pupil's score is the total number of correct responses. The highest possible score is 61 on the Comprehension Test, and 95 on the Language Elements Tests. The same value is assigned to both forms (A and B) of the tests.

After correcting the tests and counting the number of correct responses, write the scores in the blanks provided at the end of each part of the test and forward all the scores to the front page of the booklet in the space provided there. Add the scores of each part of the test together to find the total score of the Comprehension Test or the Language Elements Tests.

5. Direction for Recording Scores

Class record sheets have been prepared on which the scores of forty pupils may be entered. In the spaces provided at the top of the sheet write the grade, name of teacher, test used, school and other information asked for, (See p. 145).

Test papers should be arranged in alphabetical order. In the spaces provided on the Class Record, write the names of the pupils, ages, scores on the various parts of the tests, total score, I.Q., and average Latin mark attained to date indicative of a pupil's ability or achievement in Latin.

The distribution of scores for the class may be entered on Page 2 of the Class Record in the space provided. From this distribution the class median is easily calculated.

ANSWERS TO COMPREHENSION TEST, FORM A

KEY: COMPREHENSION TEST, FORM A

DIRECTIONS

Before using the key, fold it on each black line between the columns of answers.

To score the Comprehension Tests begin with the key folded on the crease between the columns for Part A and Part B, with Part A face up. Adjust the key so that the answers on the key and on the pupil's test booklet correspond.

Use a colored pencil and place a check mark in the right hand margin opposite each correct answer. Continue with the next part of the test in the same way.

The score is the total number of correct answers. An answer is considered correct when the correct letter of the choice underlined by the pupil is placed in the right-hand blank space. If a pupil underlines the correct response and places the wrong letter or no letter in the blank, the scorer is asked to accept the pupil's obvious intention as his answer. If a pupil underlines two answers, even though one is correct, the item should be considered wrongly answered.

Copy the scores for the four parts of the test in the space provided on the front page of each booklet.

For accuracy all scoring, counting, and copying should be checked.

Those using the tests are asked to refer any errors found in the test or in the key to the attention of the author.

Part A		Part B	
1.	b	1.	d
2.	c	2.	b
3.	e	3.	a
4.	a	4.	d
5.	b	5.	a
6.	c	6.	d
7.	b	7.	e
8.	e	8.	e
9.	c	9.	e
10.	b	10.	c

ANSWERS TO COMPREHENSION TEST, FORM A

KEY: COMPREHENSION TEST, FORM A

Part A	Part B	Part C	Part D
11. a	11. a	1. e	1. c
12. d	12. b	2. b	2. d
13. d	13. c	3. e	3. d
14. c	14. c	4. c	4. c
15. b	15. d	5. c	5. a
16. b		6. b	6. c
		7. d	7. b
		8. a	8. b

Part B	Part C	Part D
16. c	9. c	9. a
17. d	10. c	10. b
	11. d	11. e
	12. b	12. e
		13. c
		14. d
		15. a
		16. d

ANSWERS TO COMPREHENSION TEST, FORM B

KEY: COMPREHENSION TEST, FORM B

(See Key: Comprehension Test, Form A, p. 133)

Part A	Part B
1. c	1. c
2. e	2. b
3. a	3. a
4. e	4. e
5. d	5. d
6. c	6. c
7. b	7. c
8. d	8. e
9. c	9. d

ANSWERS TO COMPREHENSION TEST, FORM B

KEY: COMPREHENSION TEST, FORM B

(Continued)

Part A	Part B	Part C	Part D
10. e	10. a	1. b	1. c.
11. b	11. e	2. d	2. b
12. b	12. a	3. c	3. e
13. e	13. d	4. e	4. e
14. c	14. e	5. d	5. c
15. b	15. c	6. e	6. b
16. c	16. c	7. a	7. d
	17. d	8. c	8. a

Part C	Part D
9. b	9. b
10. c	10. d
11. c	11. d
12. e	12. e
	13. c
	14. c
	15. b
	16. e

ANSWERS TO LANGUAGE ELEMENTS TESTS, FORM A

KEY: PARTS, II, III, IV, FORM A

DIRECTIONS

Before using the key, fold it on each black line between the columns of answers.

To score the Language Elements Tests begin with the key folded on the creases between the columns for Vocabulary items, with Items 1 to 12 face up. Adjust the key so that the answers on the key and on the pupil's booklet compare.

Use a colored pencil and place a check mark in the right hand margin opposite each correct answer. Continue with the next part of the test in the same way.

The score is the total number of correct answers. An answer is considered correct in the Vocabulary and Speech Feeling Tests when the correct letter of the choice underlined by the pupils is placed in the right hand blank space. The correct letter only is necessary in the Form Test.

If a pupil underlines the correct response and places the wrong letter or no letter in the blank, the scorer is asked to accept the pupil's obvious intention as his answer. If a pupil underlines

Vocabulary					
1.	c	13.	d	26.	b
2.	e	14.	e	27.	c
3.	b	15.	e	28.	d
4.	b	16.	b	29.	a
5.	c	17.	d	30.	e
6.	a	18.	d	31.	d
7.	b	19.	d	32.	b
8.	a	20.	a	33.	a
9.	d	21.	d	34.	c
10.	c	22.	d	35.	c
11.	b	23.	b	36.	d
12.	e	24.	c	37.	c
		25.	e	38.	b

ANSWERS TO LANGUAGE ELEMENTS TESTS, FORM A

KEY: PARTS II, III, IV, FORM A

(Continued)

two answers, even though one is correct, the item should be considered wrongly answered.

Copy the scores for the three parts of the test in the space provided on the front page of each booklet.

For accuracy all scoring, counting, and copying should be checked.

Those using the tests are asked to refer any errors found in the test or in the key to the attention of the author.

Vocabulary		Speech Feeling		Forms	
39.	c	1.	c	1.	F
40.	d	2.	a	2.	H
		3.	c	3.	A
		4.	c	4.	D
		5.	e	5.	G
		6.	d	6.	D
		7.	d	7.	J
		8.	c	8.	C
		9.	c	9.	E
		10.	c	10.	C
		11.	e	11.	I

	Speech Feeling	Forms
12.	d	12. A
13.	b	13. D
14.	b	14. G
15.	e	15. A
16.	e	16. G
17.	e	17. H
18.	d	18. F
19.	a	19. K
20.	b	20. I
21.	e	21. E
22.	d	22. B
23.	b	23. I
24.	e	24. B
25.	d	25. J
26.	a	
27.	c	
28.	e	
29.	c	
30.	c	

ANSWERS TO LANGUAGE ELEMENTS TESTS, FORM B

KEY: PARTS II, III, IV, FORM B

(See Key: Parts II, III, I4, Form A, page 139)

Vocabulary					
1.	d	12.	e	23.	d
2.	a	13.	d	24.	b
3.	c	14.	c	25.	b
4.	d	15.	a	26.	d
5.	a	16.	e	27.	c
6.	b	17.	b	28.	c
7.	c	18.	c	29.	e
8.	a	19.	d	30.	e
9.	e	20.	b	31.	d
10.	b	21.	b	32.	b
11.	d	22.	e	33.	b

ANSWERS TO LANGUAGE ELEMENTS TESTS, FORM B

KEY: Parts II, III, IV, FORM B

(See Key: Parts II, III, IV, Form A, page 139)

Vocabulary		Speech Feeling		Forms	
34.	d	1.	b	1.	B
35.	d	2.	c	2.	G
36.	e	3.	c	3.	H
37.	a	4.	d	4.	E
38.	d	5.	c	5.	H
39.	b	6	a.	6.	G
40.	a	7.	b	7.	F
		8.	d	8.	G
		9.	e	9.	H
		10.	d	10.	A
		11.	b	11.	A

Speech Feeling		Forms	
12.	c	12.	B
13.	b	13.	J
14.	d	14.	D
15.	e	15.	E
16.	c	16.	C
17.	c	17.	J
18.	e	18.	A
19.	d	19.	F
20.	b	20.	I
21.	b	21.	K
22.	e	22.	C
23.	a	23.	E
24.	e	24.	D
25.	e	25.	1
26.	d		
27.	e		
28.	d		
29.	d		
30.	a		

CLASS RECORD

GRADE..... TEACHER..... TEST USED..... FORM.....

SCHOOL..... DATE OF EXAMINATION.....

CITY..... STATE.....

Name	Age	Part I	Part II	Part III	Part IV	Total	I Q	Mark

CLASS RECORD

Directions: Make a tally mark in the second column for each score opposite the interval in which the score occurs.

SCORES	PUPIL SCORES
155–159	.....
150–154	.....
145–149	.....
140–144	.....
135–139	.....
130–134	.....
125–129	.....
120–124	.....
115–119	.....
110–114	.....
105–109	.....
100–104	.....
95– 99	.....
90– 94	.....
85– 89	.....
80– 84	.....
75– 79	.....
70– 74	.....
65– 69	.....
60– 64	.....
55– 69	.....
50– 54	.....
45– 49	.....
40– 44	.....
35– 39	.....
30– 34	.....
25– 29	.....
20– 24	.....
15– 19	.....
10– 14	.....
5– 9	.....
0– 4	.....

Name	Age	Part I	Part II	Part III	Part IV	Total	I Q	Mark

Summary

1. The number of correct responses for each test item was tabulated and the percentage computed after which the standard deviation value found by McCall's table was assigned to each item. Two passages were selected bearing similar standard deviation values as a measure of difficulty for each year of Latin to form the Comprehension Test. Thought questions of multiple choice type were based on each passage in the equivalent forms.

2. Items were eliminated to form the final Language Elements Tests by discarding those items which did not discriminate between responses of "Good" and "Poor" groups.

3. Criticisms of items as ambiguous by certain teachers giving the tests also formed a criterion of elimination.

4. Standard deviation values were obtained for each item in each year of Latin. Items which increased in difficulty after the first year, as indicated by an increase in the standard deviation value, were eliminated wherever possible.

5. The final Comprehension Test was constructed for use in a class period of 45 minutes. The Language Elements Tests were allotted 45 minutes, 15 minutes for each part.

6. The distribution of parts of speech in the final Vocabulary Test is almost identical in the two forms of the test, and is comparable to their distribution in the New York Word List (see Table X).

7. The tests accompanied by full directions for administering, scoring and tabulating scores are given in the text. (Chapter IV, pp. 101 to 146.)

V

Norms, Reliability and Statistical Validity

1. Determination of Norms

It is necessary to establish norms so that the tests may be of value to all schools using them. These norms are established on the basis of pupil performance.

The final forms of the tests were given during the last week of May or the first week of June, 1931. The tests were given to 2,106 pupils in twenty-two public secondary schools[1] in seventeen states, involving thirty-five teachers of Latin in various parts of the United States. Of the 2,106 pupils taking the tests, 1,046 were given the Comprehension Test, Forms A and B, and 1,060 pupils were given the Language Elements Tests, Form A and B. Each test was given in both forms to 597 pupils distributed over the four years of Latin. The schools selected were located in cities of the following sizes: eleven cities of 100,000 population or over, four cities of 25,000 to 100,000 population, and seven cities of 25,000 population or less. The twenty-two schools chosen out of more than one hundred acceptances were selected largely because of the reputation of the teacher as one using the "functional" method of teaching. In other instances where nothing definite was known regarding the teacher's methods, schools known to use a new type text book were chosen.

Mimeographed directions for administering and scoring the tests were sent to the thirty-five teachers cooperating. The tests, however, and the keys containing the correct answers were printed in order to increase accuracy and speed for the pupils taking the tests and for those scoring the results.

Half the teachers giving the tests were asked to give Form A of the Comprehension Test first, followed by Form B, and to give Form B of the Language Elements Tests first, followed by Form A. The reverse procedure was used with the remaining teachers.

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[1] See Appendix 3 for schools giving final tests.

In scoring the test items each one was given the same value of one point. Hence the highest possible score on each form was the total number of items in each test, namely, 61 on the Comprehension Test and 95 on the Language Elements Tests. Scores were copied on class record sheets similar in form to the one given on page 145. Because the tests were given so close to the end of the semester many teachers found it impossible to score the papers. In such cases the tests were scored by the writer herself or under her supervision and the results were copied on the Record Sheets. Tests were sent to twenty-four school systems and results were received from twenty-two. The tests reached the other two schools too late to be used.

Tentative norms have been established based on the returns of 1,046 pupils taking Forms A and B of the Comprehension Test, and 1,060 pupils taking Forms A and B of the Language Elements Tests. The results of the final tests are given in Tables XXI to XXVI. These tables show the test used and the number of pupils in each year of Latin taking the test. The median scores, the mean and the S.D. are given for the Comprehension Test and Language Elements Tests with the probable errors of the median, mean and S.D. It will be noticed that there is a very close agreement between the results of the two forms of the test. For example, a comparison of the results of the Comprehension Test, Forms A and B for all years of Latin shows that the difference between the median scores of these two forms is only .18. This negligible difference indicates that the degree of difference existing between Form A and Form B is so slight that either form may be used with equally satisfactory results for testing. The results shown in the Language Elements Tests also indicate a small degree of difference between the two forms of the test. It will be noticed also in Table XXII that the value of Q (one-half the interquartile range) in the Comprehension Test for all years of Latin is 8.06 for Form A and 7.80 for Form B. The value of Q for the Language Elements Tests for all years of Latin is 13.05 for Form A and 13.07 for Form B. The differences are so slight that a very close agreement may be said to exist between the two forms of each test.

Tables XXII to XXIV indicate the various percentile norms

TABLE XVI[2]

MEAN AND MEDIAN SCORES AND STANDARD DEVIATIONS WITH THEIR PROBABLE ERRORS FOR 1046 PUPILS IN THE COMPREHENSION FORMS A AND B

	N	MEDIAN	P. E. MD	MEAN	P. E. M	S. D.	P. E.
1st Year Form A.	352	21.9	±.400	22.3	±.328	8.30	±.280
1st Year Form B.	352	22.2	±.350	22.4	±.288	8.10	±.245
2nd Year Form A.	261	27.5	±.250	28.4	±.268	6.85	±.175
2nd Year Form B.	261	28.4	±.250	28.9	±.268	6.85	±.175
3rd Year Form A.	220	34.1	±.418	34.4	±.335	8.05	±.236
3rd Year Form B.	220	33.8	±.418	34.4	±.335	7.90	±.236
4th Year Form A.	213	42.8	±.475	41.9	±.351	8.30	±.329
4th Year Form B.	213	42.6	±.500	41.8	±.408	8.90	±.350
All Years Form A	1046	29.6	±.262	31.8	±.217	13.50	±.182
All Years Form B	1046	29.8	±.262	31.9	±.217	13.50	±.182

TABLE XVII

MEDIAN AND MEAN SCORES AND STANDARD DEVIATIONS WITH THEIR PROBABLE ERRORS FOR 1060 PUPILS IN THE VOCABULARY TEST FORMS A AND B

	N	MEDIAN	P. E. MD	MEAN	P. E. M	S. D.	P. E.
1st Year Form A.	257	15.8	±.837	15.6	±.674	5.45	±.581
1st Year Form B.	257	15.4	±.887	15.8	±.710	5.20	±.623
2nd Year Form A.	362	20.0	±.225	20.5	±.180	5.20	±.154
2nd Year Form B.	362	19.7	±.275	20.4	±.221	6.30	±.189
3rd Year Form A.	229	25.6	±.335	20.7	±.268	6.10	±.187
3rd Year Form B.	229	26.0	±.325	25.8	±.260	5.90	±.182
4th Year Form A.	212	28.0	±.287	28.5	±.234	5.20	±.203
4th Year Form B.	212	28.1	±.287	28.6	±.234	5.20	±.203
All Years Form A	1060	21.7	±.150	22.4	±.119	5.70	±.105
All Years Form B	1060	22.1	±.157	22.4	±.126	5.80	±.100

for Forms A and B of the Comprehension Test and for Forms A and B of the Language Elements Tests and the totals for both these tests. These results are based on the scores of 1,046 pupils in Comprehension and 1,060 pupils in Vocabulary, Forms, and Speech Feeling. Table XXII may be read as follows: Of the 1,046 pupils who took the Comprehension Test, Form A, 10

[2] Statistical results found in this study were checked by two individuals other than the investigator.

TABLE XVIII

MEDIAN AND MEAN SCORES AND STANDARD DEVIATIONS WITH THEIR PROBABLE ERRORS FOR 1060 PUPILS IN THE TEST ON FORMS, FORMS A AND B

	N	MEDIAN	P. E. MD	MEAN	P. E. M	S. D.	P. E.
1st Year Form A.	257	7.6	±.225	9.0	±.187	4.3	±.154
1st Year Form B.	257	8.0	±.250	8.4	±.207	4.7	±.175
2nd Year Form A.	362	12.3	±.225	13.8	±.187	5.4	±.154
2nd Year Form B.	362	13.5	±.225	13.9	±.187	5.4	±.154
3rd Year Form A.	229	16.7	±.251	15.5	±.201	4.7	±.140
3rd Year Form B.	229	16.7	±.275	16.3	±.210	5.0	±.147
4th Year Form A.	212	17.5	±.250	17.4	±.201	4.4	±.175
4th Year Form B.	212	17.5	±.251	17.3	±.207	4.7	±.176
All Years Form A	1060	13.7	±.125	13.7	±.105	4.9	±.084
All Years Form B	1060	14.3	±.137	13.8	±.112	5.0	±.098

TABLE XIX

MEDIAN AND MEAN SCORES AND STANDARD DEVIATIONS WITH THEIR PROBABLE ERRORS FOR 1060 PUPILS IN THE SPEECH FEELING TEST, FORMS A AND B

	N	MEDIAN	P. E. MD	MEAN	P. E. M	S. D.	P. E.
1st Year Form A.	257	7.65	±.187	7.4	±.154	3.6	±.133
1st Year Form B.	257	7.9	±.187	7.8	±.154	3.6	±.133
2nd Year Form A.	362	12.1	±.262	12.5	±.214	5.7	±.182
2nd Year Form B.	362	12.0	±.325	12.7	±.261	6.8	±.224
3rd Year Form A.	229	13.7	±.250	14.1	±.220	5.2	±.154
3rd Year Form B.	229	13.8	±.250	14.2	±.220	5.2	±.154
4th Year Form A.	212	17.8	±.337	17.5	±.274	5.9	±.238
4th Year Form B.	212	17.8	±.350	17.5	±.288	6.3	±.254
All Years Form A	1060	12.0	±.150	13.1	±.119	5.4	±.105
All Years Form B	1060	13.5	±.157	13.2	±.126	5.8	±.110

TABLE XX

MEDIAN AND MEAN SCORES AND STANDARD DEVIATIONS WITH THEIR PROBABLE ERRORS FOR 1060 PUPILS IN THE COMBINED LANGUAGE ELEMENTS TESTS

	N	MEDIAN	P. E. MD	MEAN	P. E. M	S. D.	P. E.
1st Year Form A.	257	28.4	±.187	28.6	±.154	12.0	±.133
1st Year Form B.	257	29.5	±.187	29.3	±.154	12.0	±.133
2nd Year Form A	362	44.2	±.762	47.4	±.616	17.6	±.532
2nd Year Form B	362	45.0	±.775	47.7	±.623	17.8	±.539
3rd Year Form A.	229	49.8	±.837	49.6	±.676	15.4	±.581
3rd Year Form B.	229	50.0	±.837	49.8	±.676	15.4	±.581
4th Year Form A.	212	59.4	±.675	59.9	±.542	11.8	±.469
4th Year Form B.	212	59.8	±.725	60.1	±.582	12.6	±.504
All Years Form A	1060	44.7	±.387	46.1	±.315	14.8	±.273
All Years Form B	1060	45.1	±.400	46.5	±.322	15.1	±.280

TABLE XXI

MEDIAN AND MEAN SCORES AND STANDARD DEVIATIONS WITH THEIR PROBABLE ERRORS FOR 597 PUPILS IN THE COMPREHENSION AND LANGUAGE ELEMENTS TESTS, FORMS A AND B

	N	MEDIAN	P. E. MD	MEAN	P. E. M	S. D.	P. E.
1st Year Form A.	196	53.3	± .912	53.9	± .737	15.7	±.637
1st Year Form B.	196	54.4	± .912	54.7	± .737	15.5	±.637
2nd Year Form A.	138	68.8	±1.330	69.2	±1.070	18.9	±.910
2nd Year Form B.	138	96.3	±1.330	70.2	±1.070	19.2	±.910
3rd Year Form A.	140	85.0	±1.330	81.5	±1.070	19.4	±.910
3rd Year Form B.	140	85.7	±1.330	82.0	±1.070	19.2	±.910
4th Year Form A.	123	106.6	±1.330	105.6	±1.070	17.6	±.910
4th Year Form B.	123	106.9	±1.410	106.7	±1.130	18.9	±.980
All Years Form A	597	72.6	± .637	76.5	± .571	17.8	±.441
All Years Form B	597	73.7	± .637	77.3	± .511	17.8	±.441

TABLE XXII

PERCENTILE NORMS FOR COMPREHENSION TEST, FORM A AND B, SHOWING MEDIAN AND QUARTILES

	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		TOTAL	
%	A	B	A	B	A	B	A	B	A	B
10	35.1	34.9	39.2	38.8	45.5	45.2	55.2	55.8	46.8	46.8
20	29.5	29.2	33.9	34.2	40.7	40.3	50.2	51.0	41.1	39.8
Q_1 25	28.3	28.0	32.02	33.1	39.2	38.9	48.9	48.3	38.3	38.5
30	26.9	26.9	31.05	32.05	38.2	37.7	47.7	48.0	36.5	36.8
40	24.4	24.5	29.05	29.9	36.5	35.6	45.3	45.3	33.02	33.2
M 50	21.9	22.2	27.5	28.5	34.1	33.8	42.8	42.6	29.6	29.9
60	19.4	19.9	25.9	26.8	32.3	32.4	40.4	40.0	26.6	26.8
70	16.9	17.3	24.1	25.3	30.55	30.5	37.3	36.7	23.7	23.9
Q_3 75	15.8	16.1	23.9	24.3	29.3	29.3	35.5	35.0	22.2	22.5
80	14.5	14.8	22.05	23.0	27.1	27.7	23.9	23.3	20.6	22.0
90	12.1	12.3	19.75	20.4	23.25	24.0	30.4	30.0	15.5	15.9

per cent reached or exceeded a score of 46.8, 20 per cent reached or exceeded a score of 20.6. The 50 percentile is the median score. The 75 percentile is the upper quartile known as Q_3. The 25 percentile is the lower quartile known as Q_1.

The most effective way of utilizing percentile norms is to draw a percentile curve. The Universal Percentile Graph by Otis may be used for this purpose. Figures 1 and 2 show the distribution of

TABLE XXIII

PERCENTILE NORMS FOR LANGUAGE ELEMENTS TESTS, FORMS A AND B SHOWING MEDIAN AND QUARTILES

		FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		TOTAL	
	%	A	B	A	B	A	B	A	B	A	B
	10	46.3	46.5	73.5	74.1	71.5	72.2	78.5	80.5	71.5	71.7
	20	39.1	39.7	62.4	62.6	65.6	65.7	70.4	70.5	62.1	63.5
Q_1	25	37.1	38.0	58.1	59.4	62.8	63.1	68.5	68.3	59.4	59.9
	30	35.4	36.4	54.4	55.9	60.0	60.2	66.6	66.6	56.7	57.1
	40	31.8	32.9	48.3	49.4	56.9	57.0	63.05	63.2	52.2	51.8
M	50	28.3	29.4	44.2	45.06	51.8	51.8	59.8	59.6	45.8	46.2
	60	25.7	26.1	40.3	40.8	47.3	47.4	56.8	57.1	40.3	40.7
	70	22.9	22.7	36.4	36.5	43.7	43.1	53.9	54.2	35.1	35.5
Q_3	75	20.2	21.05	34.6	34.7	40.5	40.5	52.6	52.9	32.5	32.9
	80	17.9	18.9	32.5	32.6	37.6	37.1	51.1	51.5	29.8	30.6
	90	12.9	13.4	27.2	27.2	29.9	30.0	44.8	45.0	22.6	23.7

TABLE XXIV

PERCENTILE NORMS FOR COMPREHENSION AND LANGUAGE ELEMENTS TESTS, FORMS A AND B SHOWING MEDIAN AND QUARTILES

		FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		TOTAL	
	%	A	B	A	B	A	B	A	B	A	B
	10	75.6	76.6	97.5	100.0	106.2	106.2	128.7	130.0	109.1	109.2
	20	68.1	68.4	88.4	89.3	102.4	102.4	123.4	124.1	100.7	101.5
Q_1	25	65.4	66.0	83.07	84.6	100.5	100.5	120.4	120.4	95.9	96.8
	30	62.1	63.6	78.8	80.0	97.9	98.9	117.7	117.7	91.4	94.7
	40	67.5	58.8	74.1	74.8	92.1	92.4	112.2	112.2	81.03	82.3
M	50	53.6	54.6	66.9	67.5	85.0	85.7	106.6	106.4	72.6	72.9
	60	49.5	50.2	63.4	64.3	77.2	78.1	101.6	102.2	64.8	65.5
	70	44.6	45.8	57.8	59.4	69.4	69.5	95.5	96.2	57.5	58.7
Q_3	75	42.4	43.8	54.7	53.7	65.6	66.0	92.2	92.5	54.1	55.1
	80	40.0	41.5	51.7	52.3	61.6	62.5	87.0	87.0	50.7	51.4
	90	33.9	34.8	44.7	45.0	44.6	54.0	82.5	82.5	42.06	43.04

scores made by the 1,046 pupils inComprehension Test, Forms A and B and the 1,060 pupils in the Language Elements Tests, Forms A and B.

"A percentile curve shows at a glance not only the median score of a class but also the range and variability of the scores. It shows at a glance just what per cent of the scores of the class is exceeded by the score of any given indi-

vidual and just what per cent of the class attains or exceeds any given score. Two or more curves on the same graph show very vividly the amount of overlapping of the scores of different classes. The point where the percentile curve cuts the 50 percentile line represents the median score of the group. The value so found may not be exactly the same as the median found in the usual way by counting the middle paper in order of score, but if not, the median score found by means of the curve is considered to represent the distribution better and to be in that sense more nearly accurate."[3]

In Figures 1 and 2, the median score on the Comprehension Test in Forms A and B is 29.6 and 29.9, and on the Language Elements Tests, 45.8 and 46.2 respectively. The distribution of scores in both forms of the tests show such a marked degree of similarity that at certain points two curves are barely distinguishable.

The points at which the curve cuts the 25 and 75 percentile lines represent the lower and upper quartiles of the distribution. The interval between is known as the interquartile range. For example in Figure 1 the Form A percentile curve cuts the 25 percentile line at a height representing a score of 23 and cuts the 75 percentile line at a height representing a score of 39. The interval of 16 points between these two scores is the interquartile range of this distribution. It may be seen that the interquartile range is one measure of variability. That is to say, if there is a greater interval between the 25 and 75 percentile scores in Form A than in Form B, the scores of Form A are to that extent more variable. The values of the 25 and 75 percentile scores depend upon the position of the curve as a whole, and are in no sense subject to chance fluctuation of a single extreme score. For that reason the interquartile range is considered to be a far better measure of the variability of the scores of a distribution than the whole range of scores.

The frequency distribution of 1046 scores obtained in the Comprehension Test, Forms A and B is shown in Figure 3. The distribution of 1,060 scores obtained in the Language Elements Tests, Forms A and B, is shown in Figure 4.

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[3] Otis, A. S., *Statistical Method in Educational Measurement*, New York, World Book Company, 1925, pp. 77–84.

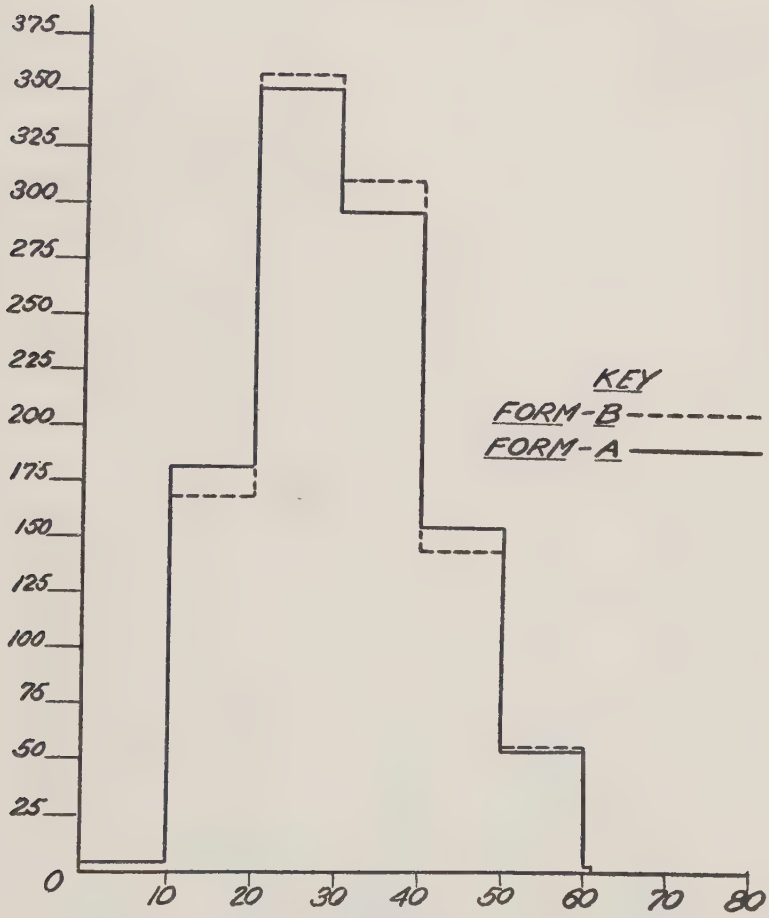

FIGURE 3

DISTRIBUTION OF SCORES OF COMPREHENSION TEST

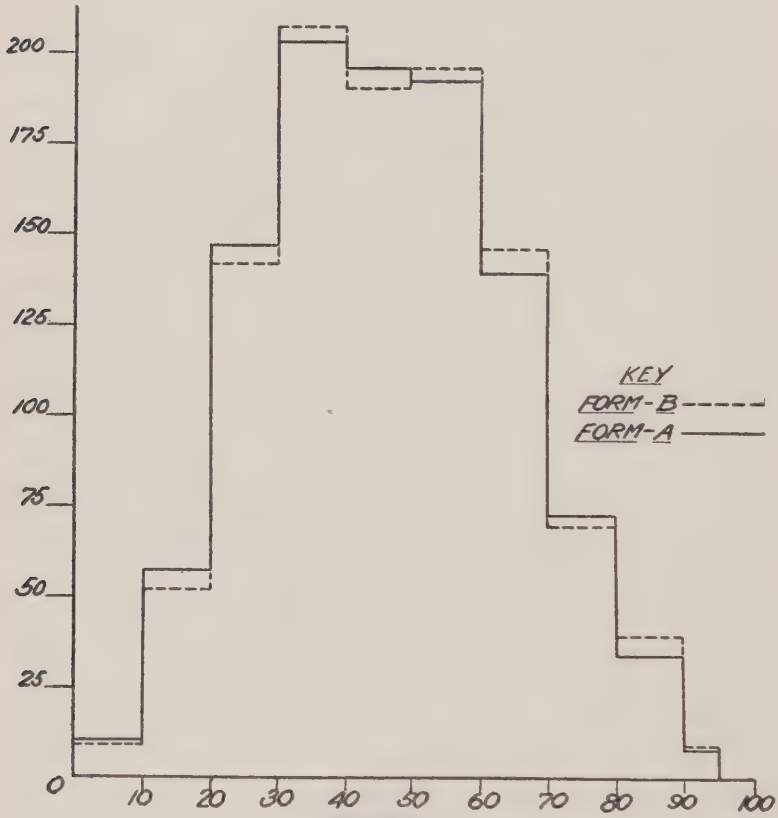

FIGURE 4
DISTRIBUTION OF SCORES OF LANGUAGE ELEMENTS TESTS

2. Reliability and Internal Validity

The degree to which the scores of a test are consistent in measuring whatever the test measures is known as the reliability of a test. Reliability coefficients are determined by correlating two different forms of the same test taken by the same pupils. The coefficients show the correlation between the scores of Form A and Form B of the Comprehension Test and of Forms A and B of the Language Elements Tests. The Pearson Product-Moment Formula was used:

UNIVERSAL PERCENTILE GRAPH

Grade or Class	ALL YEARS			ALL YEARS			Examination	COMPREHENSION TESTS
Number	1046			1046			School or College	
Date of Exam.	MAY 1931			MAY 1931			Examiner	
Form Used	A			B			Percentile Graph	
Score	Tallying	Subtotals	Per cents	Tallying	Subtotals	Per cents	0 10 20 30 40 50 60 70 80 90 100	
90-99								
80-89								
70-79								
60-69				2	1046	100		
50-59	55	1046	100	57	1044	99		
40-49	156	991	94	145	987	94		
30-39	298		79	312	842	80		
20-29	352		50	358	530	50		
10-19	182	185	17	169	172	16		
0-9	3	3	.002	3	3	.002		
Class Medians	30			30			0 10 20 30 40 50 60 70 80 90 100	

FIGURE 1.
DISTRIBUTION OF COMPREHENSION TEST SCORES FORM "A" AND FORM "B"

UNIVERSAL PERCENTILE GRAPH

Grade or Class	ALL YEARS			ALL YEARS		
Number	1061			1061		
Date of Exam.	MAY, 1932			MAY, 1932		
Form Used	A			B		
Score	Tallying	Sub-totals	Per cents	Tallying	Sub-totals	Per cents
110-119						
100-109						
90-99	8	1061	100	9	1061	100
80-89	34	1053	99	39	1052	99
70-79	73	1019	96	70	1013	95
60-69	190	946	89	146	943	89
50-59	193	806	76	196	797	75
40-49	196	613	57	191	601	56
30-39	203	417	39	207	410	38
20-29	147	214	20	142	203	19
10-19	57	67	6	52	61	5
0-9	10	10	.009	9	9	.008
Class Medians	45.			46.		

Examination LANGUAGE ELEMENTS TEST
School or College
Examiner
Percentile Graph
0 10 20 30 40 50 60 70 80 90 100

FIGURE 2
DISTRIBUTIONS OF LANGUAGE ELEMENTS TEST SCORES FORM A AND FORM B

$$r = \frac{\Sigma xy}{N \sigma_x \sigma_y}$$

The reliability coefficients of the Comprehension and Language Elements Tests are given in Tables XXV, XXVI, and XXVII. The coefficients of the Comprehension Test are based on the results of 1,046 pupils, taking the results of each year separately and in entirety. The coefficients of the Language Elements Tests are based on the returns of each year separately and then on all years grouped together. The coefficients are then given for the both tests together.

TABLE XXV

RELIABILITY COEFFICIENTS FOR THE COMPREHENSION TEST, FORM A WITH FORM B FROM THE RESULTS OF 1046 PUPILS

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of cases	352	261	220	213	1046
Reliability Coefficient	.927 ± .005	.910 ± .007	.966 ± .003	.931 ± .005	.936 ± .002

TABLE XXVI

RELIABILITY COEFFICIENTS FOR THE LANGUAGE ELEMENTS TESTS, FORM A WITH FORM B FROM THE RESULTS OF 1060 PUPILS

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of Cases	257	362	229	212	1060
Vocabulary Test	.731 ± .018	.869 ± .009	.947 ± .005	.943 ± .005	.880 ± .004
Form Test	.817 ± .014	.918 ± .005	.866 ± .011	.917 ± .007	.886 ± .004
Speech Feeling Test	.807 ± .015	.958 ± .003	.892 ± .008	.917 ± .007	.888 ± .004
Entire Language Elements Test	.912 ± .006	.913 ± .005	.908 ± .008	.944 ± .005	.937 ± .002

These reliability coefficients show that either form of both tests may be used, and that the results should be practically the same, on the basis of the data given. The results show a greater degree of reliability for the Comprehension and Language Elements Tests together than for the individual parts. This is probably due to the fact that the abilities of the whole group are

TABLE XXVII

RELIABILITY COEFFICIENTS FOR THE COMPREHENSION AND LANGUAGE ELEMENTS TESTS, FORM A WITH FORM B FROM THE RESULTS OF 597 PUPILS

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of Cases	196	138	140	123	597
Reliability Coefficients	.932 ± .005	.971 ± .002	.953 ± .004	.928 ± .006	.945 ± .001

averaged when both the multiple choice and the matching exercises are used. It was also frequently observed that a pupil made a high score on the Comprehension Test and a poor score on certain parts of the Language Elements Tests. The total score of these parts would tend to equalize the average of the pupil's score and consequently the reliability coefficients of the entire test as compared with that of the separate parts.

The probable error of the reliability coefficients was computed by means of the formula:

$$P.E._r = .6747 \frac{1-r^2}{\sqrt{N}}$$

The coefficient of correlation is said to be significant when it is more than four times the value of the probable error.[4] The correlation with the lowest coefficient and the highest P. E. is that of the Vocabulary Test for the first year (see Table XXVI), namely, .731 ± .018. The coefficient is more than forty times the P. E. The others show an even higher reliability. This shows that the difference between the correlations found and the true correlations is negligible.

There are various ways of measuring the reliability of a test. One is to find the coefficient of correlation between two equivalent forms of the test (see Tables XXV-XXVII). Another is to find the probable error of the test. The reliability of a test, however, should not be judged on the basis of the scores of a single indi-

[4] Holzinger, K. J., *Statistical Methods for Students in Education*, Boston, Ginn & Co., 1928, p. 237.

vidual. Theoretically, we should have a large number of scores of a large number of individuals. But if the test could be repeated often enough with each individual available, so that the median of all his scores could be considered his true score, then the deviations of the various scores of that individual from his median score would be the true amount of error of his scores. If the true values of the errors of many scores of many individuals in a test were available, the median of all these errors would be an accurate measure of the unreliability of the test. Such a median error is called the probable error of the test.

The probable error of a test, therefore, may be defined as the median value of the errors of many scores of many individuals. It is the most probable amount of the error of any new measurement in the sense that the error of the new measurement will as likely exceed that amount as not.[5]

The probable error of a score for the Comprehension and Language Elements Tests was computed from the values of S.D. of both forms of the tests in Tables XVI to XXI, and the correlation coefficients in Tables XXV, XXVI, and XXVII. The values are obtained by means of the formula:[6]

$$\text{P. E.}_{\text{score}} = .6745 \frac{\sigma_1+\sigma_2}{2} \sqrt{1-r_{12}}$$

The values for r in the Comprehension Test are .927, .91, .96, .93, and .936 respectively for four years of Latin and for the years combined. The corresponding values for r in the Language Elements Tests are .912, .913, .95, .92, and .93. The values of P. E. score for the Comprehension Test for all years of Latin do not exceed 2.36 and for the Language Elements Tests 2.42. It will be seen from Table XXVIII that the true score of a pupil taking the Comprehension Test will probably not differ from his obtained score by more than 2.36 points and for the Language Elements Tests by more than 2.42 points. The chances are 4.6 to 1 that

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[5] Otis, A. S., *Statistical Method in Educational Measurement*, New York, World Book Co., 1927, pp. 247–253.

[6] Ruch, G. M. and Stoddard, G. D., *Tests and Measurements in High School Instruction*, New York, World Book Co., 1927, p. 367.

the error in either test will not be more than twice the errors given here. These results furnish additional proof that the tests are a reliable measure of a pupil's ability to read and understand Latin and to do functionally those requisites of the Latin language elements measured by these tests.

Data of the four criteria mentioned in Chapter II have been secured to measure the validity of the tests, namely, the intercorrelations between the Comprehension Test and the various parts of the Language Elements Tests, the correlations of these tests with teacher's marks in Latin, with pupil's I.Q., and with three previously published Latin tests.

TABLE XXVIII

PROBABLE ERRORS OF A SCORE FOR COMPREHENSION AND LANGUAGE ELEMENTS TESTS AS COMPUTED FROM THE VALUES OF S.D. AND r

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Comprehension Test	1.49	1.37	.978	1.41	2.36
Vocabulary Test	1.92	1.38	.89	.844	1.32
Forms Test	1.10	1.02	1.20	.888	1.21
Speech Feeling Test	1.01	.836	1.15	1.15	1.24
Language Elements Tests	2.44	3.58	3.11	1.97	2.42
Entire Test	2.73	2.17	2.01	3.19	2.87

TABLE XXIX

RELIABILITY COEFFICIENTS SHOWING INTERCORRELATIONS FOR THE COMPREHENSION TESTS, FORMS A AND B (COMBINED) WITH FORMS A AND B (COMBINED) OF THE VOCABULARY, FORMS AND SPEECH FEELING TESTS

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of cases*	540	478	415	372	1805
Vocabulary Test	.450 ± .038	.663 ± .028	.779 ± .022	.673 ± .031	.628 ± .016
Form Test	.364 ± .043	.416 ± .042	.679 ± .030	.614 ± .037	.508 ± .019
Speech Feeling Test	.578 ± .035	.620 ± .037	.741 ± .026	.669 ± .034	.651 ± .016

*The number of cases specified for each year includes the results from the three tests.

The relationship between a knowledge of Vocabulary, Forms and Speech Feeling and the ability to read Latin is one of obvious importance in teaching. Just as a vocabulary test in English is perhaps the best single measure of intelligence, so the pupil's knowledge of vocabulary in Latin is just as valuable an index. An analysis of these intercorrelations as indicated in Table XXIX shows that the results are high enough to demonstrate that if any of the tests are valid, all of them are, and that each one makes a valuable contribution to the measurement of the ability to read Latin.

In connection with the Modern Foreign Language Study[7] made by the American and Canadian Committees on Modern Languages, the following intercorrelations between various linguistic abilities were reported in the second semester of each year of study:

	FIRST YEAR	SECOND YEAR	THIRD YEAR
FRENCH:			
Vocabulary with Reading..	.56	.50	.69
Grammar with Reading...	.52	.54	.47
GERMAN:			
Vocabulary with Reading..	.41	.70	...
Grammar with Reading...	.65	.70	...
SPANISH:			
Vocabulary with Reading..	.39	.74	.59
Grammar with Reading...	.51	.53	.39

A comparison of Table XXIX with the coefficients given by Henmon shows a decided increase from the first to the third years in the correlation between the ability to read Latin and the various linguistic abilities presumably contributory to it which is lacking in the results for French. There are several considerations, however, which make the results non-comparable. The modern language correlations are for the function as a whole,

[7] Henmon, V. A. C., *Achievement Tests in Foreign Languages*, New York, MacMillan & Co., 1929, p. 93.

while those in this study are for case forms and speech feeling. The comprehension vocabulary coefficients are more comparable and exceed those in the modern language study year by year except for first year French and second year German. The difficulty of Latin, however, seems demonstrably greater than that of modern languages, as Buswell[8] has shown from eye movements. Hence it should be expected that the integration of the elements of language mastery would be slower in Latin, with the result that in the first year or two, the intercorrelations of the component functions would be lower than for modern languages. The fact that the intercorrelations in this study on the whole are as high or higher would indicate that the "Tests of Functional Latin" are more valid than those reported by the Modern Foreign Language Study.

There is a tendency for the intercorrelations to increase after the first year. It is to be expected that increased contact with Latin would result in an integration of various skills and abilities and that the coefficients would show a definite tendency to rise. The slight decrease in the Latin results found in the fourth year may be due to the fact that elements of grammar are not stressed in this year.

3. Correlation With Other Measures

The use of teachers' marks[9] as a criterion of validity is highly unreliable since they are composite measures of the several abilities developed in the learning of a language. In default of other criteria more reliable, however, they have been used. Correlations of test scores and teachers' marks are never high, .85 being about the highest reported. The reason for such low correlations is found in the low reliability of school marks. Kelly[10] shows that the highest possible correlation which can be obtained with school marks cannot exceed greatly the square root of the reliability coefficient of the measure in question.

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[8] Judd, C. H. and Buswell, G. T., "Silent Reading: A Study of the Various Types (*Supplementary Educational Monograph, No. 23*), Chicago, University of Chicago Press, 1922.

[9] See Appendix 5 for schools submitting teachers' marks.

[10] Kelley, T. L., *Statistical Method*, New York, MacMillan Co., 1923, pp. 205–208.

The use of school marks[11] as a test criterion presents a simple method of validation within limitations caused by unreliability. The unreliability is present because:

1. School marks are based upon tests, recitations, and examinations which are always samplings—not everything taught is fully measured.
2. Teachers' marks may be composite measures of behavior, work habits, and mental ability as well as achievement.

The correlation coefficients of teachers' marks with the Comprehension and Language Elements Tests are presented in Table XXX.

TABLE XXX

CORRELATION COEFFICIENTS FOR TEACHERS' MARKS AND THE COMPREHENSION TEST, THE LANGUAGE ELEMENTS TESTS AND THE TWO TESTS COMBINED, FORMS A AND B

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of cases*	348	204	267	213	1032
Comprehension Tests	.820 ± .016	.500 ± .068	.281 ± .063	.420 ± .055	.526 ± .024
Language Elements Tests	.524 ± .036	.598 ± .035	.569 ± .039	.410 ± .055	.531 ± .019
Both Tests	.653 ± .030	.740 ± .043	.677 ± .040	.667 ± .042	.667 ± .019

*The number of cases specified for each year includes the number of pupils taking both the Comprehension and Language Elements Tests.

This table aids in determining the factors that enter into teachers' marks. Correlations between scores in grammar and Latin marks are considerably higher in second and third years than between Comprehension scores and marks. It is evident that the traditional emphasis on language elements is still strong except in the first year. A coefficient of .820 between Comprehension scores and marks, and .524 between Language Elements scores and marks shows a decided tendency to follow the functional method in first year work by stressing the development of

[11]Ruch, G. M. and Stoddard, G. D., *Tests and Measurements in High School Instruction*, New York, World Book Co., 1927, p. 319.

the power to read Latin. The notion still appears to exist in other years of Latin that a knowledge of grammar is a sufficient index of a pupil's ability to read Latin. Although the intercorrelations show that the elements of grammar correlate fairly well with the Comprehension scores, they are not sufficiently high to be used as a perfect index of achievement. Correlations with teachers' marks show a tendency to decrease after the second year. This may be caused by factors other than the abilities measured by the tests, which affect Latin marks.

The Modern Foreign Language Study[12] reports the following correlations between teachers' marks and language abilities:

	FIRST YEAR	SECOND YEAR	THIRD YEAR
FRENCH:			
Reading	.41	.35	.21
Grammar	.50	.53	.40
GERMAN:			
Reading	.71	.70	.70
Grammar	.64	.52	.73

Comparing these results with those obtained in this study, it is found that the relation between teachers' marks and language abilities in Latin is very much higher than in French but lower than in German. This may be explained by the very limited amount of data on which the German results were based.

The I.Q.'s of pupils taking the tests were included by a number of teachers[13] in the information sent to the writer. Correlations of the I.Q. with the test scores are presented in Table XXXI. Little significance is attached to these results for the purpose of this study. The coefficients, however, agree in size with those published in other studies. There is a decided tendency for the coefficient to rise steadily after the first year. This may be due to a selective process of elimination in Latin classes. In general

[12] Henmon, V. A. C., *Achievement Tests in Modern Foreign Languages*, New York, Macmillan & Co., 1931, pp. 97–101.

[13] See Appendix 6 for schools submitting I. Q.'s.

pupils with a high I. Q. are more likely to finish four years of Latin than pupils with an I. Q. under 110. This explanation is supported by the median I.Q.'s found for pupils of each year of Latin—first and second years 113, third year 116, and fourth year, 117.

TABLE XXXI

CORRELATION COEFFICIENTS FOR THE I. Q'S WITH THE COMPREHENSION AND LANGUAGE ELEMENTS TESTS, FORMS A AND B, AND FOR THE TWO TESTS COMBINED, FORMS A AND B

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of Cases*	419	226	149	138	932
Comprehension Test	.429 ± .036	.570 ± .045	.574 ± .043	.419 ± .060	.503 ± .023
Language Elements Tests	.436 ± .039	.430 ± .046	.585 ± .050	.849 ± .026	.512 ± .022
Both Tests	.438 ± .039	.558 ± .042	.620 ± .056	.804 ± .031	.557 ± .022

*The number of cases specified for each year includes I. Q.'s given for those taking the Comprehension and Language Elements Tests.

In October, 1931, 2,000 tests were sent to fourteen schools[14] in various parts of the United States along with an equal number of published standardized tests. Of this number 500 were Comprehension Tests, Forms A and B, given with an equal number of Ullman-Kirby Comprehension Tests, Forms I and II. The validity coefficients of Table XXXII, as well as the S. D., the Mean, and Median scores are based on 471 returns. Since the ability to answer thought questions is required in both tests, the coefficient was expected to be high.

Six hundred copies of the Vocabulary Test, Forms A and B, were sent at the same time with an equal number of copies of the White Vocabulary Test, Forms A and B. The validity coefficients in Table XXXIII with the Standard Deviation, the Mean and Median Scores and their probable errors are calculated from the 592 returns. Since the White Test calls for the locating of words

[14] See Appendix 4 for list of schools.

in isolated form instead of in context, the validity coefficient was not expected to be large. It was found, however, to be .843 for all years of Latin.

TABLE XXXII

CORRELATION COEFFICIENTS FOR THE COMPREHENSION TESTS WITH THE ULLMAN-KIRBY COMPREHENSION TESTS SHOWING THE STANDARD DEVIATION, THE MEAN AND MEDIAN SCORES FOR EACH TEST

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of cases.	67	141	115	148	471
Correlation Coefficient....	.831 ± .041	.854 ± .014	.722 ± .029	.702 ± .028	.744 ± .014
Standard Deviation 1.....	6.70 ± .046	5.90 ± .018	5.70 ± .022	4.70 ± .014	6.50 ± .005
Standard Deviation 2.....	7.20 ± .049	8.05 ± .026	8.90 ± .035	6.85 ± .021	9.05 ± .008
Mean.....1..	15.8 ± .067	17.6 ± .027	20.0 ± .032	25.0 ± .021	19.8 ± .008
2 .	25.6 ± .071	30.2 ± .038	33.0 ± .051	39.6 ± .030	33.6 ± .012
Median.....1..	13.8 ± .083	16.4 ± .033	20.2 ± .04	25.0 ± .026	20.4 ± .01
2..	25.4 ± .088	30.0 ± .047	33.0 ± .063	38.2 ± .037	33.2 ± .015

1. Haage Comprehension Tests.
2. Ullman-Kirby Comprehension Tests.

TABLE XXXIII

CORRELATION COEFFICIENTS FOR THE VOCABULARY TEST WITH THE WHITE VOCABULARY TEST SHOWING THE STANDARD DEVIATION, MEAN AND MEDIAN SCORES

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of cases.	57	219	140	176	592
Correlation Coefficient....	.705 ± .04	.662 ± .02	.798 ± .02	.541 ± .03	.843 ± .008
Standard Deviation.....1..	3.5 ± .02	5.2 ± .01	6.8 ± .02	7.05 ± .01	7.9 ± .005
2..	8.8 ± .07	10.35 ± .02	11.2 ± .03	10.7 ± .02	17.3 ± .01
Mean.....1..	15.0 ± .04	15.9 ± .01	25.6 ± .03	25.9 ± .02	21.0 ± .008
2..	37.9 ± .10	44.5 ± .03	64.5 ± .05	73.8 ± .04	57.2 ± .019
Median.....1..	13.8 ± .05	15.5 ± .01	25.2 ± .04	25.6 ± .03	20.05 ± .01
2..	36.7 ± .12	45.0 ± .03	63.8 ± .06	74.8 ± .05	57.3 ± .02

1. Haage Vocabulary Test.
2. White Vocabulary Test.

The Form and Speech Feeling Tests Forms A and B, were sent to 500 pupils with the Godsey Latin Composition Test Forms A and B. Tables XXXIV and XXXV show the reliability coefficients, the standard deviation, the mean and median scores with their probable errors for 430 returns on the Form Test and 394 returns from the Speech Feeling Test. The scores of the test on forms were correlated with the scores on the Godsey Test for the "number of rules correct." The scores of the Speech Feeling Test were correlated with the scores of the Godsey Test for the "number of sentences correct." Since the abilities called for in the Godsey Test are somewhat different from the ones needed in the tests in this study, the validity coefficients were not expected to be high. They were found to be, however, for all years of Latin .759 and .838 for the Form and Speech Feeling Tests respectively.

The tests correlate well with accepted measures in the same field, which serves as additional evidence of the validity of the tests, and as further indication of their usefulness when given either as separate tests or in battery form.

TABLE XXXIV

CORRELATION COEFFICIENTS FOR THE FORM TEST WITH THE GODSEY COMPOSITION TEST (NUMBER OF RULES CORRECT), SHOWING THE STANDARD DEVIATION, MEAN AND MEDIAN SCORES.

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of cases.	30	186	138	76	430
Correlation Coefficient....	.714 ± .05	.825 ± .01	.548 ± .03	.405 ± .06	.759 ± .01
Standard Deviation.....1..	4.15 ± .005	5.2 ± .01	4.7 ± .01	4.15 ± .02	6.8 ± .007
2..	4.15 ± .005	5.7 ± .01	5.0 ± .01	2.7 ± .01	7.7 ± .008
Mean.....1..	9.1 ± .008	10.5 ± .01	19.5 ± .02	20.0 ± .03	15.0 ± .01
2..	10.8 ± .008	18.0 ± .02	27.3 ± .02	30.8 ± .02	22.7 ± .01
Median.....1..	8.6 ± .01	9.9 ± .02	20.8 ± .02	21.0 ± .04	15.2 ± .01
2..	11.0 ± .01	17.6 ± .02	28.0 ± .03	31.4 ± .02	23.6 ± .01

1. Haage Form Test.
2. Godsey Test (rules).

The median score was used as the tentative norm of each test in the results computed from the tests given in May, 1931. The median scores of tests given in the following October were also

calculated. Table XXXVI shows the difference between pupil performance at the end of the second semester of the school year and the beginning of the first semester of the next school year. In interpreting the differences it must be remembered that the tests were given to a different group of pupils in different schools from those considered in the May results. The fact that a summer intervened must also be considered. The tests, Forms A and B, were given to 2,106 pupils in May, and 1,877 pupils were given either Form A or Form B in October.

TABLE XXXV

CORRELATION COEFFICIENTS FOR THE SPEECH FEELING TEST WITH THE GODSEY COMPOSITION TEST (NUMBER OF SENTENCES CORRECT), SHOWING THE STANDARD DEVIATION, MEAN AND MEDIAN SCORES

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Number of cases.	30	170	125	69	394
Correlation Coefficient....	.546 ± .08	.775 ± .20	.594 ± .03	.586 ± .05	.838 ± .01
Standard Deviation:....1.	2.7 ± .04	4.70 ± .01	5.4 ± .01	5.1 ± .03	7.5 ± .008
2..	3.1 ± .04	5.7 ± .01	5.2 ± .01	3.8 ± .02	8.6 ± .009
Mean.....1..	8.1 ± .06	8.3 ± .01	19.3 ± .02	19.6 ± .04	14.1 ± .01
2..	7.6 ± .07	11.7 ± .02	24.7 ± .02	27.5 ± .02	18.4 ± .01
Median.....1.	8.0 ± .07	7.9 ± .02	20.02 ± .03	20.7 ± .06	13.0 ± .01
2..	7.6 ± .08	11.02 ± .02	24.8 ± .03	27.6 ± .04	18.7 ± .01

1. Haage Speech Feeling Test.
2. Godsey Test (sentences).

An analysis of Table XXXVI would indicate that a pupil's ability to read and understand Latin increases over the summer vacation, unless these pupils were notably superior to those tested in May. In fact, the Vocabulary Test alone shows consistently a lower median score in October than in June. It was to be expected, of course, under normal conditions that the October norms would be lower. An explanation was needed to justify the results.

The norms derived from the May scores were taken from pupils completing either one or two semesters of whatever year they were in. The October tests were likewise given to pupils who were

just beginning either the first or second semester of the year they were in. It may be safely said that a larger number of pupils who had completed one semester of a year's work were given the Comprehension, Form and Speech Feeling Tests in October, which had a tendency to lower the median for the end of the school year and raise it for the beginning of the year. In schools not promoting semi-annually this difficulty would not be encountered. It so happened that the majority of students who were given the Vocabulary Test in October were beginning the first semester of a year's work.

In the Form and Speech Feeling Tests there is little difference between the May and October medians of first year pupils caused, no doubt, by the fact that the October scores are derived only from pupils who completed one or two terms of Latin, while

TABLE XXXVI

MEDIAN SCORES OF THE COMPREHENSION AND LANGUAGE ELEMENTS TESTS GIVEN TO 2106 AND 1877 PUPILS IN MAY, 1931, AND OCTOBER, 1931 RESPECTIVELY

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
Comprehension Test, May	21.9	27.9	33.9	29.7
October	24.3	29.3	33.0	38.2
Vocabulary Test, May	15.6	19.9	25.8	28.1
October	13.8	15.5	25.2	25.6
Form Test, May	7.8	12.9	16.7	17.5
October	8.6	9.9	20.8	21.0
Speech Feeling Test, May	7.7	12.1	13.7	17.8
October	8.0	7.9	20.0	20.7

NOTE: The first year October scores are for pupils who had completed one or two semesters of Latin.

the May scores included a few who had completed three terms of Latin in first year. The October scores in these two tests exceed the May scores by a number of points in third and fourth years but are markedly lower for the second.

Another factor, however, seems to merit consideration as a plausible explanation. An analysis of Table XXXVII shows that in all tests except the White Vocabulary Test the norms are also higher in October for third and fourth year pupils. It seems justi-

fiable, therefore, to say on this basis that on the whole the pupils tested in October were superior to those tested in June. This statement is substantiated by the fact that the median scores of the schools giving the tests in October in Comprehension were higher than those of May in all years. The median scores of the schools giving the Form and Speech Feeling Tests to third and fourth year pupils are also higher than the scores of schools participating in May.

The median scores derived from the results of tests given in October and the norms established for the end of the semester follow the same trend in certain published standardized tests as in the tests constructed in this study. It will be noticed that the October vocabulary scores are consistently lower than the May scores in each year of Latin. In the Form and Speech Feeling Tests and the two tests correlated with them, the median scores are found to be higher for October in the third and fourth years. It appears that the pupils in these groups taking the tests in October were exceptionally well drilled in these elements of language and were probably a more selected group. In the Ullman-Kirby results the October scores are higher in the first and fourth years and show little variation in the other two years. In the other Comprehension Tests the October scores were higher in each year. This may be due to the fact that these pupils were taught by the functional method, in which the ability to read Latin was especially stressed.

TABLE XXXVII

MEDIAN SCORES FOR THE ULLMAN-KIRBY, WHITE AND GODSEY TESTS OBTAINED IN OCTOBER COMPARED WITH PUBLISHED FORMS FOR JUNE*

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
Ullman-Kirby, October	13.8	16.4	20.2	25.0
June	10.9	17.8	22.3	24.7
White, October	36.7	45.0	63.8	74.8
June	39.0	56.0	70.0	82.4
Godsey Rules, October	11.0	17.6	28.0	31.0
June	18.6	24.0	28.8	30.0
Godsey Sentences, October	7.0	11.0	24.0	27.0
June	13.0	19.0	23.0	26.7

*June norms for two forms of the test were averaged.

It must be considered, however, in comparing the median scores derived in October with the norms published in the Manuals accompanying the tests that the published norms were established during the period 1922-1924. The norms quoted here are those to be used at the completion of a year's work. The October scores for the same tests were secured in this study from results of pupils who were either beginning the year of Latin or who had completed one semester of the year's work.

Summary

1. The final tests were given in May, 1931 to 2,106 pupils in twenty-two public secondary schools located in seventeen states. Various sizes of cities were represented. All the tests were given to pupils in first, second, third, and fourth year of high school. Tentative norms are based on the results of pupils taking Forms A and B of the tests.

2. Tests were given by thirty-five teachers in the various schools, but the results were scores either by the teacher or under the direction of the writer. All tabulations were checked by two individuals. The completed tests were returned to the writer.

3. Norms based on the returns from 1,046 pupils taking both forms of the Comprehension Test, and 1,060 pupils taking both forms of the Language Elements Tests, show a decided increase each year. Tables XVI, XVII, XVIII, XIX, XX, XXI, show the number of cases, the median and mean scores and the standard deviation with their probable errors.

4. The percentile norms given in Tables XXII, XXIII, and XXIV, present a decidedly steady increase in percentile scores each year for both forms of the tests.

5. Correlation coefficients between Form A and Form B of all parts of the test, as presented in Tables XXV-XXVII, indicate an exceptionally high degree of reliability. Table XXVIII shows that the probable error of a score for the entire test does not exceed 2.87.

6. Intercorrelations between the Comprehension Test and the Vocabulary, Form and Speech Feeling Tests are shown in Table XXIX to be higher on the whole than in the Modern Language Study.

7. The correlations of the Language Elements Tests with teachers' marks and the pupils' I.Q.'s (Tables XXX and XXXI) are higher than those of the Comprehension Tests.

8. A comparison of scores of the Comprehension Test with the Ullman-Kirby Comprehension Test, of the Vocabulary Test with the White Vocabulary Test, and of the Forms and Speech Feeling Tests with the Godsey Latin Composition Test (Tables XXXII, XXXIII, XXXIV, XXXV) reveals and confirms acceptably high standards of attainment and confirm the validity of the tests in this study.

9. A comparison of the May and October median scores in Table XXXVI shows a tendency for October scores to exceed the May scores in several parts of the test. This may have been due to the fact that May norms were established by a larger number of first semester scores (with consequently lower medians than the October) or to a superiority of attainment on the part of October pupils.

10. Table XXXVII shows a comparison between the October scores of the Ullman-Kirby Comprehension Test, the White Vocabulary Test, and the Godsey Composition Test derived in this study with the June norms published by the authors of the tests. Third and fourth year results are higher for the Godsey Tests in October, and also for the Ullman-Kirby tests in the first and fourth years, pointing again to the probability that a more selected group was tested in October.

VI

Summary and Conclusions

Summary

It was the purpose of this study to construct standardized achievement tests of secondary school Latin which would be valid for testing the attainment of the immediate objective set up by the Classical Investigation, namely—"the progressive development of the ability to read and understand Latin" through an increasing mastery of the elements of language, namely, vocabulary, forms and speech feeling (Chapter I, page 13).

When the Report of the Classical Investigation was published in 1924 the recommendations made by this group immediately aroused the attention of Latin teachers. The amount of material of the Latin course was decreased, particularly in first year, the "functional method" of teaching Latin found its way into the classroom, and the "development of the power to read and understand Latin" was generally accepted as the primary objective. The "functional method" is defined (Chapter I, pages 14-20) as the teaching of vocabulary, forms and syntax as they are met in context as an aid to the primary immediate objective, which is the ability to comprehend a Latin sentence or paragraph.

The recommendations of the Classical Investigation were soon incorporated by authors of Latin text books to such an extent that within six years twenty-one text books of first year Latin, each one following the recommendations of the Classical Investigation in some detail, were published (Chapter II, pp. 49-54).

State and city courses of study in Latin were revised. An analysis of twenty of these printed courses of study showed that each one followed the report of the Classical Investigation (Chapter II, p. 54). An analysis of the Latin achievement tests, however, which were constructed as a part of the Classical Investigation or after 1924 shows that although the recommendations of the Classical Investigation were adopted by text books, by edu-

cators in cities and states, and by classroom teachers, tests were not available to measure "functional" Latin as it is now taught (Chapter I, p. 23). But one comprehension test (the Ullman-Kirby) has been published which measures a pupil's ability to read Latin by thought questions. No "functional" language tests in which the elements of language are tested in context have been published. Hence the purpose of this study was to construct "Tests of Functional Latin," valid for testing the attainment of the immediate objectives set up by the Classical Investigation.

The selections for the Comprehension Test were taken from the works of standard authors which were recommended in the Report of the Classical Investigation. First year selections were original (Chapter III, p. 59). Forms and principles of syntax used in the Language Elements Tests were chosen from the outline of content found in the Report of the Classical Investigation (Chapter II, pp. 39–43). Latin words used in these tests were selected from the College Entrance Examination Board Word List and were verified by the New York State List. The contribution made by the words used in the Vocabulary Test to the English language was found by checking the words in the Grinstead English-Latin Derivative Lexicon (Chapter IV, p.89).

The preliminary tests were given to 500 pupils in November, 1930. From the results of these tests and the criticisms offered by the teachers giving the tests, the items were selected for the final test (Chapter IV, pp. 77–80). A few items in the preliminary tests were considered ambiguous by these teachers and were consequently eliminated from the final form of test. The standard deviation value was found for each item for each year by McCall's scale. Items which showed an increase in difficulty in each year were eliminated. (Chapter IV, p 84 .) Pupils with a score in a test above the median were considered "Good" pupils; those with a score below the median "Poor" pupils. If the number of "Good" pupils answering an item correctly did not exceed the number of "Poor" pupils, the item was not considered discriminatory of "Good" and "Poor" pupils and was, therefore, omitted from the final test (Chapter IV, p. 83). The items in each form of the test were paired in difficulty on the basis of their standard deviation value.

The final Comprehension Test consisted of two forms, each containing 61 items of the multiple choice type. The Vocabulary and Speech Feeling Tests were also of the multiple choice form. In the Form Test matching exercises were used (Chapter IV, p. 98).

The tests in final form were given to over 1,000 students of secondary school Latin over a widely scattered area in May, 1931 (Chapter V, p. 148). Temporary norms were determined from the results of these tests (Chapter V, pp. 150-152).

Conclusions

Validity

The "Tests of Functional Latin" may be considered valid from a curricular standpoint since they test a secondary school pupil's ability to read and understand Latin and his skill in the contributory language elements, the purpose for which the tests were constructed. The test items parallel the accepted teaching procedures set forth by the Classical Investigation. The items are representative of the content of reading, forms, syntax and vocabulary as outlined in the Classical Investigation.

The tests may be said to constitute a reasonably accurate measuring instrument because the percentages of correct responses of each item show a consistent increase in each of the four years, as do the median scores. The median scores may be considered reliable since the tests were given to a sufficiently large number of pupils (Chapter V, pp. 150–152).

Tentative norms based on the median score were established for pupils completing the year's work:

MEDIANS

Based on the Results of 2106 Cases

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Comprehension Test, A	21.90	27.50	34.11	42.84	29.68
B	22.20	28.41	33.80	42.62	27.86
Vocabulary Test, A	15.81	20.04	25.67	28.06	21.78
B	15.40	19.75	26.08	28.06	22.15
Form Test, A	7.61	12.33	16.70	17.56	13.78
B	8.06	13.56	16.70	17.56	14.33
Speech Feeling Test, A	7.65	12.125	13.78	17.89	12.02
B	7.90	12.055	13.80	17.86	13.55
Language Elements, A	28.41	44.28	49.80	59.47	44.76
B	29.53	45.05	50.00	59.87	45.18
Both Tests, A	53.36	68.80	85.00	106.66	72.60
B	54.46	69.30	85.79	106.92	73.78

The difference in difficulty between Forms A and B of all tests is of little significance and consequently either Form may be used for reliable testing (Chapter V, pp. 149).

Definite correlations were found between the test scores and teachers' marks in Latin, as follows (N = 1032):

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Comprehension	.820 ± .016	.500 ± .068	.281 ± .063	.420 ± .055	.524 ± .024
Language Elements	.524 ± .036	.598 ± .035	.569 ± .039	.410 ± .055	.531 ± .019
Both	.653 ± .030	.740 ± .043	.770 ± .040	.667 ± .042	.667 ± .019

The results show a significant relationship between school marks and test scores, higher for both parts of the test, than for the separate parts, and language elements form part of a pupil's mark (Chapter V, p. 165).

Correlations between test scores and pupils' I. Q.'s were as follows (N = 932):

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Comprehension	.429 ± .036	.570 ± .045	.684 ± .043	.419 ± .060	.503 ± .023
Language Elements	.436 ± .039	.430 ± .046	.585 ± .050	.839 ± .026	.512 ± .022
Both	.438 ± .039	.558 ± .042	.620 ± .056	.804 ± .031	.557 ± .022

These correlations are higher than those reported in other studies and shown an increased relationship of the I. Q. to Latin comprehension and language elements each year (Chapter V, p. 166).

Further evidence of the validity of the "Tests of Functional Latin" was obtained by correlating the comprehension test constructed in this study with the Ullman-Kirby Comprehension Test. The Forms and Speech Feeling Tests were correlated with the Godsey Latin Composition Test, while the Vocabulary Test was correlated with the White Vocabulary Test. Each of these tests was given to more than 500 pupils in October, 1931.

Correlations between the Comprehension and the Ullman-Kirby Comprehension Test, the Vocabulary Test and the White Vocabulary Test, the Forms and Speech Feeling Tests and the Godsey Latin Composition Test were:

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Ullman-Kirby...	.831 ± .041	.854 ± .014	.722 ± .029	.702 ± .028	.744 ± .014
White Vocabulary.....	.705 ± .044	.662 ± .025	.798 ± .020	.541 ± .036	.843 ± .008
Godsey Test (Rules).....	.714 ± .059	.825 ± .016	.548 ± .039	.504 ± .065	.759 ± .013
Godsey (Sentences).	.546 ± .087	.775 ± .021	.594 ± .037	.587 ± .053	.838 ± .010

These high correlations show that the "Tests of Functional Latin" test the same abilities and skills as those measured in the published tests. Correlations of the combined years are higher than those reported in related studies (Chapter V, pp. 167-173).

Tentative norms for "Tests of Functional Latin" based on the median scores were established for pupils tested in October, 1931, were as follows (N = 1877):

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
Comprehension....	24.3	29.3	33.0	38.2
Vocabulary.....	13.8	15.5	25.2	25.6
Form.....	8.6	9.9	20.8	21.0
Speech Feeling....	8.0	7.9	20.0	20.7

Median scores for October are based on the average results of Forms A and B. The Comprehension norms and third and fourth year norms of the Form and Speech Feeling Tests are higher than those reported for May, due perhaps to the testing of a superior group of pupils.

Reliability

The reliability of the tests was found by correlating Form A with Form B. Although the coefficients for the Comprehension Tests were not lower than .910 in any year, the coefficients for the Language Elements Tests were consistently lower in individual years but equal in the combined years. The coefficient found for all tests in the combined years was .945.

Reliability coefficients for the tests were found to be:

COMPREHENSION TEST, FORM A WITH FORM B
No. of Cases = 1046

FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
.927 ± .005	.910 ± .007	.966 ± .033	.931 ± .005	.936 ± .002

LANGUAGE ELEMENTS TESTS, FORM A WITH FORM B
No. of Cases = 1060

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Vocabulary	.731 ± .018	.869 ± .009	.947 ± .005	.943 ± .005	.880 ± .004
Forms	.817 ± .014	.918 ± .005	.866 ± .011	.917 ± .007	.886 ± .004
Speech Feeling	.807 ± .015	.958 ± .003	.892 ± .008	.917 ± .007	.888 ± .004
Total	.912 ± .006	.913 ± .001	.908 ± .008	.944 ± .005	.937 ± .002

COMPREHENSION AND LANGUAGE ELEMENTS TESTS, FORM A WITH FORM B

No. of Cases = 597

FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
.932 ± .005	.971 ± .004	.953 ± .004	.928 ± .006	.945 ± .001

These high correlations show that there is a very significant agreement between Form A and Form B of each part of the test taken separately or as one complete test (Chapter V, p.159).

Scores in the Language Elements Tests were correlated with the Comprehension Test scores. An increase in coefficients is apparent until the fourth year. This decrease may have been caused by a poor group of students tested in fourth year or by the fact that language elements were not stressed in fourth year work. Nevertheless, these intercorrelations are high enough to be significant and show that there is a definite relationship between the mastery of the elements of language and the ability to read and understand Latin (Chapter V, p. 163).

Intercorrelations between the Comprehension Tests and the Vocabulary, Forms and Speech Feeling Tests were found to be as follows (N = 1805):

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	ALL YEARS
Vocabulary	.450 ± .038	.663 ± .028	.779 ± .022	.673 ± .031	.628 ± .016
Form	.364 ± .043	.416 ± .042	.679 ± .030	.614 ± .037	.508 ± .019
Speech Feeling	.578 ± .035	.620 ± .037	.741 ± .026	.669 ± .034	.651 ± .016

The final "Test of Functional Latin" was given to more than 3500 students of secondary school Latin in May and October, 1931. The test was in printed form and was sent to the schools cooperating, with printed keys and mimeographed directions for scoring (Chapter IV, pp. 101–146). The scoring of the tests is entirely objective.

On the basis of the data presented in this study and summarized in this chapter, it may be said that the "Tests of Functional Latin" are valid because (1) they measure "functional" Latin according to the accepted principles of teaching today; (2) their content was selected from the content outlined and incorporated by the Classical Investigation, and which has been incorporated in the Latin text books of today; (3) a significant relationship exists between the tests in this study and teachers' marks, the pupils' I. Q.'s and previously published tests of comprehension, vocabulary, forms and syntax; (4) the items showed a consistent increase of percentages of successes in each year.

Data presented in this study also indicate that the "Tests of Functional Latin" may be considered reliable because (1) an exceptionally high reliability coefficient was obtained by correlating Form A with Form B of each test; (2) the intercorrelations of the Language Elements Tests with the Comprehension Test are sufficiently high to justify the inclusion of both types of tests in the battery; (3) other statistical measures given in the study are of such a nature that they emphasize the validity of the tests.

APPENDIX I

Instructions for those giving Preliminary Tests: Part I, the Comprehension Test is constructed to measure the achievement of pupils in first, second, third, and fourth years of Latin. A separate test has been prepared for each year. Parts II, III, and IV, the Vocabulary, Form and Speech Feeling Tests are designed to measure the achievement of pupils in the elements of language. The same tests are to be given to all pupils regardless of the number of semesters they have studied Latin.

1. At least one class period of 50 minutes will be necessary for each part of the test. Allow the pupil as much time as he needs, if possible.

2. On the day the test is to be given have all desks cleared. See that each pupil has a sharpened pencil.

3. When the pupils are ready, say to the class: "We are going to have a Latin test. Each one will be given a copy of the test. Do not write anything on it until you are told to do so." Distribute the papers.

4. When the papers have been distributed, say: "Write your name, class and school on the front page of the test."

5. After the pupils have finished this, say: "Read the directions of the tests with me." After the directions have been read and the sample exercises have been explained, say: "No questions may be asked after you begin the test. You may begin now. Make a note of the time."

6. Instruct the pupils also to make a note of the time at which they have handed in their test paper.

7. Do not score the papers.

8. Return all papers as soon as possible with any corrections or criticisms of the tests you have to offer.

APPENDIX 2

School systems in which the Preliminary Tests were given in November, 1930.

Princeton, New Jersey
Wilmington, Delaware
Reading, Pennsylvania (two schools)
Merion, Pennsylvania
Overbrook, Pennsylvania
Boyertown, Pennsylvania
Fleetwood, Pennsylvania
Allentown, Pennsylvania

Mt. Penn, Pennsylvania
Kutztown, Pennsylvania
Philadelphia, Pennsylvania (two schools)
Hamburg, Pennsylvania
Upper Darby, Pennsylvania

APPENDIX 3

School systems in which the Final Tests were given in May, 1931.

Crockett, California
Oakland, California
Spokane, Washington
Minneapolis, Minnesota
Madison, Wisconsin
Mt. Vernon, Iowa
St. Louis, Missouri
Chicago, Illinois
Winnetka, Illinois
Terre Haute, Indiana
Cleveland, Ohio
Springfield, Massachusetts
Dorchester, Massachusetts
Bath, Maine
Bennington, Vermont
Brooklyn, New York
Troy, New York
Newark, New Jersey (two schools)
Groton, Connecticut
Wyomissing, Pennsylvania
Reading, Pennsylvania (two schools)
Savannah, Georgia

APPENDIX 4

School systems in which the Final tests were given in October, 1931, with a previously published Latin test.

Portland, Oregon
Butte, Montana
Dubuque, Iowa

Phoenix, Arizona
South Bend, Indiana (two schools)
Roxbury, Massachusetts
Norristown, Pennsylvania
Harrisburg, Pennsylvania
Reading, Pennsylvania (two schools)
Baltimore, Maryland
Newport News, Virginia
Bowling Green, Kentucky

APPENDIX 5

School systems from which Teacher's Marks were obtained with test scores for Comprehension and Language Elements Tests:

Terre Haute, Indiana
Oakland, California
Reading, Pennsylvania
Newark, New Jersey
Winnetka, Illinois
Savannah, Georgia
Dorchester, Massachusetts
Brooklyn, New York
Springfield, Massachusetts
Wyomissing, Pennsylvania

APPENDIX 6

School systems from which I.Q.'s were obtained with test scores for Language Elements and Comprehension Tests:

Madison, Wisconsin
Terre Haute, Indiana
Oakland, California
Chicago, Illinois
Reading, Pennsylvania
Winnetka, Illinois

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